

STRUCTURE SEARCH

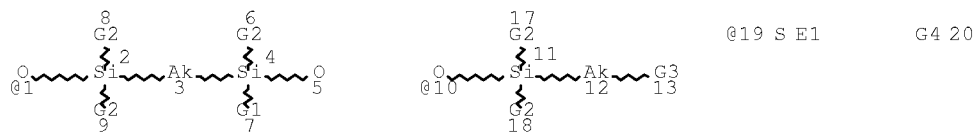
=> d his 147

(FILE 'HCAPLUS' ENTERED AT 17:56:40 ON 23 FEB 2010)

L47 23 S L40 OR L44 OR L46
 SAV TEMP L47 ECH222HCP/A

=> d que stat 147

L1 1 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON US20060219981/
 PN
 L2 7 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON (154619-15-5/
 BI OR 161000-64-2/BI OR 273735-07-2/BI OR 770733-64-7/B
 I OR 792931-71-6/BI OR 792931-72-7/BI OR 792931-73-8/BI
)
 L3 STR



VAR G1=ME/ET/N-PR/I-PR/PH
 VAR G2=ME/ET/N-PR/I-PR/PH/O
 VAR G3=CO2H/OPO3H2/OSO3H/PO3H2/19/SO3H
 VAR G4=1/10

NODE ATTRIBUTES:

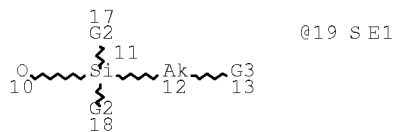
HCOUNT IS E1 AT 19
 CONNECT IS E1 RC AT 19
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED
 ECOUNT IS M1-X50 C AT 3
 ECOUNT IS M1-X50 C AT 12

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 17

STEREO ATTRIBUTES: NONE

L7 4613 SEA FILE=REGISTRY SSS FUL L3
 L8 STR



VAR G2=ME/ET/N-PR/I-PR/PH/O
 VAR G3=CO2H/OPO3H2/OSO3H/PO3H2/19/SO3H

NODE ATTRIBUTES:

HCOUNT IS E1 AT 19
 CONNECT IS E1 RC AT 19
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED
 ECOUNT IS M1-X50 C AT 12

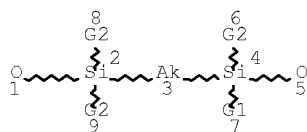
GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 7

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STEREO ATTRIBUTES: NONE

L9 STR



VAR G1=ME/ET/N-PR/I-PR/PH
 VAR G2=ME/ET/N-PR/I-PR/PH/O
 NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED
 ECOUNT IS M1-X50 C AT 3

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 9

STEREO ATTRIBUTES: NONE

L11 2898 SEA FILE=REGISTRY SUB=L7 SSS FUL L8
 L13 1738 SEA FILE=REGISTRY SUB=L7 SSS FUL L9
 L14 23 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L11 AND L13
 L15 2 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L2 AND L14
 L17 16 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L14
 L18 1 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L15
 L19 7604 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L11
 L20 1182 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L13
 L21 50 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L19 AND L20
 L22 4844 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON PROTON?(8A)?CO
 NDUCT?(8A)?MEMBRAN?
 L23 50 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L17 OR L21
 L24 50 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L23 OR L18
 L25 QUE SPE=ON ABB=ON PLU=ON PY=<2003 NOT P/DT
 L26 QUE SPE=ON ABB=ON PLU=ON (PY=<2003 OR PRY=<2003 OR
 AY=<2003 OR MY=<2003 OR REVIEW/DT) AND P/DT
 L27 32 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L24 AND (L25
 OR L26)
 L28 10 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L17 AND L27
 L29 32 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L27 OR L28
 L30 1 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L29 AND L22
 L31 1 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L1 AND L29
 L32 15922 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON PROTON?(3A)?CO
 NDUCT?
 L33 2 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L29 AND L32
 L34 QUE SPE=ON ABB=ON PLU=ON FILM? OR THINFILM? OR LAYE
 R? OR OVERLAY? OR OVERLAID? OR LAMIN? OR LAMEL? OR MULT
 ILAYER? OR SHEET? OR LEAF? OR FOIL? OR COAT? OR TOPCOAT
 ? OR OVERCOAT? OR VENEER? OR SHEATH? OR COVER? OR ENVEL
 OP? OR ENCASE? OR ENWRAP? OR OVERSPREAD? OR ENCAPSUL?
 L35 QUE SPE=ON ABB=ON PLU=ON L34 OR ?MEMBRAN?
 L36 QUE SPE=ON ABB=ON PLU=ON (PROTON? OR CHARG? OR HOLE
 # OR ELECTRON# OR E) (2A) (TRANSPORT? OR MIGRAT? OR TRAN
 SFER? OR MOVE# OR MOVING# OR MOVEMENT? OR ?CONDUCT?)
 L37 15 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L29 AND (L36
 OR L22 OR L32 OR L35)
 L38 QUE SPE=ON ABB=ON PLU=ON POR? OR POUR?
 L39 3 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L37 AND L38
 L40 15 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON (L30 OR L31)
 OR L33 OR L37 OR L39
 L43 QUE SPE=ON ABB=ON PLU=ON POLYMI? OR CURE# OR CURING
 # OR CURAB? OR CROSS(W)LINK? OR CROSSLINK?

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L44	18	SEA	FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L29	AND	L43
L46	10	SEA	FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L44	AND	L40
L47	23	SEA	FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L40	OR	L44
							OR		L46

STRUCTURE SEARCH RESULTS

=> d 147 1-23 ibib ed abs hitstr hitind

L47 ANSWER 1 OF 23 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2005:75850 HCAPLUS Full-text

DOCUMENT NUMBER: 142:159545

TITLE: Manufacture of electrodes for fuel cells with high catalytic efficiency, and good durability and dimensional stability

INVENTOR(S): Miyama, Toshihito; Nomura, Shigeki

PATENT ASSIGNEE(S): Sekisui Chemical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 31 pp.

CODEN: JKXXAF

DOCUMENT TYPE: ~~Patent~~

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 2005026005	A	20050127	JP 2003-188386	2003 0630
			<--	
JP 4394906	B2	20100106	JP 2003-188386	2003 0630
PRIORITY APPLN. INFO.:				
			<--	

ED Entered STN: 28 Jan 2005

AB The electrodes consist of electroconductive porous materials, ~~crosslinked~~ structures having acid group-containing metal-O linkages in contact with the porous materials, and metal particles precipitated near the acid groups. The electrodes are manufactured by mixing the electroconductive porous materials with the ~~crosslinked~~ structures, substitution of proton in the acid groups with cations containing metal catalyst ions, and reducing the metal ions for precipitation of metal particles in the ~~crosslinked~~ structures. The electrodes show improved heat resistance.

IT 161000-64-2DF, oxidized

RL: CPS (Chemical process); DEV (Device component use); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process); USES (Uses)

(manufacture of electrodes by precipitation of metal particles for fuel cells)

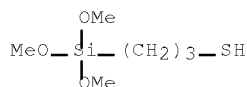
RN 161000-64-2 HCAPLUS

CN Silicic acid (H₄SiO₄), tetraethyl ester, polymer with 3-(trimethoxysilyl)-1-propanethiol (CA INDEX NAME)

CM 1

CRN 4420-74-0

CMF C6 H16 O3 S Si

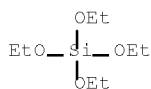


CM 2

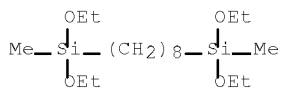
CRN 78-10-4

10/554,222-322849-EIC SEARCH

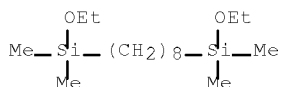
CMF C8 H20 O4 Si



IT 469867-63-8P, 1,8-Bis(diethoxymethylsilyl)octane
 524729-76-8P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP
 (Preparation); RACT (Reactant or reagent)
 (manufacture of electrodes by precipitation of metal particles for fuel
 cells)
 RN 469867-63-8 HCAPLUS
 CN 3,14-Dioxa-4,13-disilahexadecane, 4,13-diethoxy-4,13-dimethyl-
 (CA INDEX NAME)



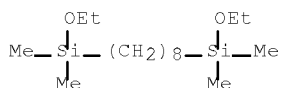
RN 524729-76-8 HCAPLUS
 CN 3,14-Dioxa-4,13-disilahexadecane, 4,4,13,13-tetramethyl- (CA
 INDEX NAME)



IT 770733-64-7P
 RL: DEV (Device component use); IMF (Industrial manufacture); PREP
 (Preparation); USES (Uses)
 (water-repellent treatment for electroconductive porous
 materials; manufacture of electrodes by precipitation of metal particles for
 fuel cells)
 RN 770733-64-7 HCAPLUS
 CN 3,14-Dioxa-4,13-disilahexadecane, 4,13-diethoxy-4,13-dimethyl-,
 polymer with 4,4,13,13-tetramethyl-3,14-dioxa-4,13-
 disilahexadecane (9CI) (CA INDEX NAME)

CM 1

CRN 524729-76-8
 CMF C16 H38 O2 Si2

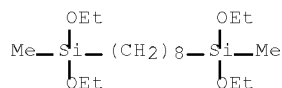


10/554,222-322849-EIC SEARCH

CM 2

CRN 469867-63-8

CMF C18 H42 O4 Si2



IC ICM H01M004-86
ICS H01M004-88; H01M008-10
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
IT 161000-64-25P, oxidized
RL: CPS (Chemical process); DEV (Device component use); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process); USES (Uses)
(manufacture of electrodes by precipitation of metal particles for fuel cells)
IT 469867-63-8P, 1,8-Bis(diethoxymethylsilyl)octane
524729-76-8P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manufacture of electrodes by precipitation of metal particles for fuel cells)
IT 770733-64-7P
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(water-repellent treatment for electroconductive porous materials; manufacture of electrodes by precipitation of metal particles for fuel cells)

L47 ANSWER 2 OF 23 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2004:1056991 HCAPLUS Full-text
DOCUMENT NUMBER: 142:24750
TITLE: Curable vinyl polymer compositions
with good weather and heat resistance
INVENTOR(S): Hasegawa, Nobuhiro; Nakagawa, Yoshiki
PATENT ASSIGNEE(S): Kaneka Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 69 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004346146	A	20041209	JP 2003-143182	

2003
0521

PRIORITY APPLN. INFO.: <-- JP 2003-143182

2003
0521

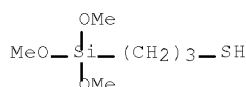
ED Entered STN: 09 Dec 2004

AB The compns., useful for sealants, adhesives, etc., contain vinyl polymers having ≥1 crosslinkable silyl group. Thus, a composition comprising silyl-terminated polymer [manufactured from alkenyl-terminated poly(Bu acrylate) and (MeO)2SiHMe] 100, Hakuenka CCR (colloidal CaCO3) 150, Nanox 25A (ground CaCO3) 40, Tipaque R 820 (TiO2) 10,

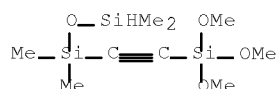
10/554,222-322849-EIC SEARCH

plasticizer 70, thixotropic agent 2, antiaging agents 2, hardener 2, and other additives 5 parts was applied on a substrate and ~~cured~~ and aged at room temperature for 3 days and at 50° for 4 days to give a rubber ~~sheet~~ with excellent weather resistance.

IT 4420-74-0DP, 3-Mercaptopropyltrimethoxysilane, reaction products with alkenyl-terminated poly(Bu acrylate)
 656247-27-7DP, reaction products with alkenyl-terminated poly(Bu acrylate)
 RL: IMF (Industrial manufacture); POF (Polymer in formulation);
 TEM (Technical or engineered material use); PREP (Preparation);
 USES (Uses)
 (vulcanized rubber; ~~curable~~ silyl group-containing vinyl polymer compns. with good weather and heat resistance)
 RN 4420-74-0 HCAPLUS
 CN 1-Propanethiol, 3-(trimethoxysilyl)- (CA INDEX NAME)



RN 656247-27-7 HCAPLUS
 CN 3,8-Dioxa-2,4,7-trisilanon-5-yne, 7,7-dimethoxy-2,4,4-trimethyl-
 (CA INDEX NAME)



IC ICM C08F008-42
 ICS C08F004-40; C08F008-26; C08F008-34
 CC 42-11 (Coatings, Inks, and Related Products)
 Section cross-reference(s): 38, 39
 ST vinyl polymer silyl ~~crosslinkable~~ weather resistance;
 rubber ~~sheet~~ polybutyl acrylate methoxysilyl terminated;
 heat resistance sealant adhesive rubber silyl
 IT Silicone rubber, uses
 RL: IMF (Industrial manufacture); POF (Polymer in formulation);
 TEM (Technical or engineered material use); PREP (Preparation);
 USES (Uses)
 (acrylic-; ~~curable~~ silyl group-containing vinyl polymer compns. with good weather and heat resistance)
 IT Polysiloxanes, uses
 RL: IMF (Industrial manufacture); POF (Polymer in formulation);
 TEM (Technical or engineered material use); PREP (Preparation);
 USES (Uses)
 (acrylic-polyoxyalkylene-, rubber; ~~curable~~ silyl group-containing vinyl polymer compns. with good weather and heat resistance)
 IT Silicone rubber, uses
 RL: IMF (Industrial manufacture); POF (Polymer in formulation);
 TEM (Technical or engineered material use); PREP (Preparation);
 USES (Uses)
 (acrylic-polyoxyalkylene-; ~~curable~~ silyl group-containing vinyl polymer compns. with good weather and heat resistance)
 IT Synthetic rubber, uses
 RL: IMF (Industrial manufacture); POF (Polymer in formulation);
 TEM (Technical or engineered material use); PREP (Preparation);
 USES (Uses)
 (acrylic-polyoxyalkylene-siloxane; ~~curable~~ silyl

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group-containing vinyl polymer compns. with good weather and heat resistance)

IT Polyoxyalkylenes, uses
 RL: IMF (Industrial manufacture); POF (Polymer in formulation);
 TEM (Technical or engineered material use); PREP (Preparation);
 USES (Uses)
 (acrylic-polysiloxane-, rubber; ~~curable~~ silyl
 group-containing vinyl polymer compns. with good weather and heat
 resistance)

IT Polyoxyalkylenes, uses
 RL: IMF (Industrial manufacture); POF (Polymer in formulation);
 TEM (Technical or engineered material use); PREP (Preparation);
 USES (Uses)
 (~~curable~~ silyl group-containing vinyl polymer compns.
 with good weather and heat resistance)

IT Adhesives
 (heat-resistant; ~~curable~~ silyl group-containing vinyl
 polymer compns. with good weather and heat resistance)

IT Acrylic rubber
 RL: IMF (Industrial manufacture); POF (Polymer in formulation);
 TEM (Technical or engineered material use); PREP (Preparation);
 USES (Uses)
 (polyoxyalkylene-siloxane; ~~curable~~ silyl group-containing
 vinyl polymer compns. with good weather and heat resistance)

IT Acrylic rubber
 RL: IMF (Industrial manufacture); POF (Polymer in formulation);
 TEM (Technical or engineered material use); PREP (Preparation);
 USES (Uses)
 (siloxane-; ~~curable~~ silyl group-containing vinyl polymer
 compns. with good weather and heat resistance)

IT Sealing compositions
 (weather-resistant; ~~curable~~ silyl group-containing vinyl
 polymer compns. with good weather and heat resistance)

IT 375345-55-4P, Butyl acrylate-methoxydipropylene glycol acrylate
 copolymer
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use);
 TEM (Technical or engineered material use); PREP (Preparation);
 USES (Uses)
 (compatibilizer; ~~curable~~ silyl group-containing vinyl
 polymer compns. with good weather and heat resistance)

IT 2487-90-3DP, Trimethoxysilane, reaction products with
 alkenyl-terminated poly(Bu acrylate) 3710-30-3DP, 1,7-Octadiene,
 reaction products with poly(Bu acrylate) and alkoxyhydrosilanes
 4420-74-0DP, 3-Mercaptopropyltrimethoxysilane, reaction
 products with alkenyl-terminated poly(Bu acrylate) 6159-41-7DP,
 reaction products with poly(Bu acrylate) and alkoxyhydrosilanes
 9003-49-0DP, Poly(butyl acrylate), alkoxy-silyl-terminated
 9042-19-7DP, Polypropylene glycol allyl ether, reaction products
 with methyldimethoxysilane 16881-77-9DP, Dimethoxymethylsilane,
 reaction products with alkenyl-terminated poly(Bu acrylate)
 21748-45-8DP, reaction products with poly(Bu acrylate) and
 alkoxyhydrosilanes 25322-69-4DP, Polypropylene glycol, polyol
 derivs., alkoxy-silyl-terminated 25852-39-5DP, Butyl
 acrylate-methyl acrylate copolymer, alkoxy-silyl-terminated
 26353-42-4DP, Butyl acrylate-ethyl acrylate copolymer,
 alkoxy-silyl-terminated 36632-32-3DP, Butyl acrylate-stearyl
 acrylate copolymer, alkoxy-silyl-terminated 93410-24-3DP, Butyl
 acrylate-ethyl acrylate-2-methoxyethyl acrylate copolymer,
 alkoxy-silyl-terminated 110689-53-7P, Butyl
 acrylate-methyldimethoxysilylpropyl methacrylate-methyl
 methacrylate copolymer 115775-33-2P 149360-92-9DP, reaction
 products with methyldimethoxysilane 646522-54-5P
 856247-27-7DP, reaction products with alkenyl-terminated
 poly(Bu acrylate) 740872-79-1DP, alkoxy-silyl-terminated
 800387-54-6P 800399-69-3P 800399-71-7DP, reaction products
 with methyldimethoxysilane
 RL: IMF (Industrial manufacture); POF (Polymer in formulation);

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TEM (Technical or engineered material use); PREP (Preparation);
 USES (Uses)
 (vulcanized rubber; curable silyl group-containing vinyl
 polymer compns. with good weather and heat resistance)

L47 ANSWER 3 OF 23 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2004:965518 HCAPLUS Full-text
 DOCUMENT NUMBER: 141:413617
 TITLE: Proton conductive
 film, its manufacture, and fuel cell
 using the film
 INVENTOR(S): Miyama, Toshihito; Sugimoto, Toshiya; Nomura,
 Shigeki
 PATENT ASSIGNEE(S): Sekisui Chemical Co., Ltd., Japan
 SOURCE: PCT Int. Appl., 82 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004097850	A1	20041111	WO 2004-JP5885	2004 0423

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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,
 CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG,
 ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP,
 KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
 MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL,
 PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR,
 TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW,
 AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY,
 CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC,
 NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM,
 GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

CA 2520827	A1	20041111	CA 2004-2520827	2004 0423
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EP 1619692	A1	20060125	EP 2004-729222	2004 0423
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
 MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ,
 EE, HU, PL, SK, HR

TW 251368	B	20060311	TW 2004-93111399	2004 0423
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CN 1781162	A	20060531	CN 2004-80011145	2004 0423
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CN 100416708	C	20080903		
US 20060219981	A1	20061005	US 2005-554222	2005 1024

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PRIORITY APPLN. INFO.:		JP 2003-122766	A	2003 0425
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JP 2004-9471	A	2004 0116
WO 2004-JP5885	W	2004 0423

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 12 Nov 2004

AB A proton-conductive film which is excellent in heat resistance, durability, dimensional stability, fuel-barrier properties, flexibility, etc. and has excellent proton conductivity even at high temps.; a process for producing the film; and a fuel cell which can stably work at high temps. The proton-conductive film comprises; base comprising an organic/inorg.composite structure (α) which has a crosslinked structure formed through metal oxygen bonds and has an interconnecting pore structure in which press formed inside by the crosslinked structure are interconnected; and a proton-conductive structure (β) comprising an acid-containing structure having an acid group, the pores of the base being filled with the structure (β). A fuel cell with excellent performances can be obtained by suing the proton-conductive film.

IT 154619-15-5P 161000-64-2P
273735-07-2P 770733-64-7P
792931-71-6P 792931-72-7P
792931-73-8P

RL: DEV (Device component use); IMF (Industrial manufacture); PREP
(Preparation); USES (Uses)
(composite proton conductive inorg.-organic
films for fuel cells)

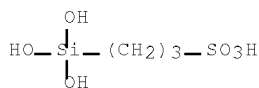
RN 154619-15-5 HCAPLUS

CN 1-Propanesulfonic acid, 3-(trihydroxysilyl)-, polymer with silicic
acid (H4SiO4) tetraethyl ester (CA INDEX NAME)

CM 1

CRN 70942-24-4

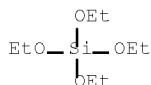
CMF C3 H10 O6 S Si



CM 2

CRN 78-10-4

CMF C8 H20 O4 Si



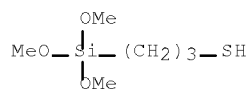
RN 161000-64-2 HCAPLUS

CN Silicic acid (H4SiO4), tetraethyl ester, polymer with
3-(trimethoxysilyl)-1-propanethiol (CA INDEX NAME)

CM 1

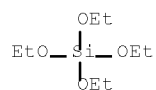
10/554,222-322849-EIC SEARCH

CRN 4420-74-0
CMF C6 H16 O3 S Si



CM 2

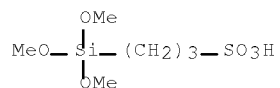
CRN 78-10-4
CMF C8 H20 O4 Si



RN 273735-07-2 HCAPLUS
CN 1-Propanesulfonic acid, 3-(trimethoxysilyl)-, polymer with silicic acid (H4SiO4) tetraethyl ester (9CI) (CA INDEX NAME)

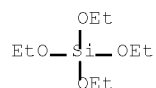
CM 1

CRN 79059-66-8
CMF C6 H16 O6 S Si



CM 2

CRN 78-10-4
CMF C8 H20 O4 Si



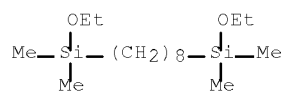
RN 770733-64-7 HCAPLUS
CN 3,14-Dioxa-4,13-disilahexadecane, 4,13-diethoxy-4,13-dimethyl-, polymer with 4,4,13,13-tetramethyl-3,14-dioxa-4,13-disilahexadecane (9CI) (CA INDEX NAME)

CM 1

CRN 524729-76-8

10/554,222-322849-EIC SEARCH

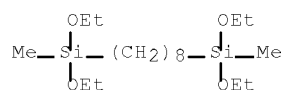
CMF C16 H38 O2 Si2



CM 2

CRN 469867-63-8

CMF C18 H42 O4 Si2



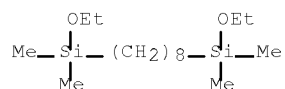
RN 792931-71-6 HCAPLUS

CN 1-Propanesulfonic acid, 3-(trihydroxysilyl)-, polymer with
4,4,13,13-tetramethyl-3,14-dioxo-4,13-disilahexadecane (9CI) (CA
INDEX NAME)

CM 1

CRN 524729-76-8

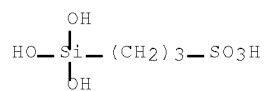
CMF C16 H38 O2 Si2



CM 2

CRN 70942-24-4

CMF C3 H10 O6 S Si



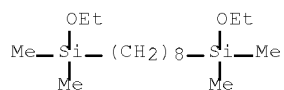
RN 792931-72-7 HCAPLUS

CN 1-Propanethiol, 3-(trimethoxysilyl)-, polymer with
4,4,13,13-tetramethyl-3,14-dioxo-4,13-disilahexadecane (9CI) (CA
INDEX NAME)

CM 1

CRN 524729-76-8

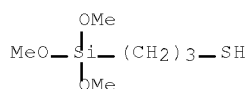
CMF C16 H38 O2 Si2



CM 2

CRN 4420-74-0

CMF C6 H16 O3 S Si



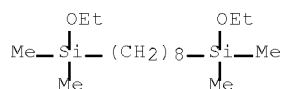
RN 792931-73-8 HCAPLUS

CN 3,14-Dioxa-4,13-disilahexadecane, 4,4,13,13-tetraethoxy-, polymer
with 4,4,13,13-tetramethyl-3,14-dioxa-4,13-disilahexadecane (9CI)
(CA INDEX NAME)

CM 1

CRN 524729-76-8

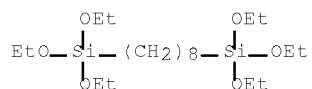
CMF C16 H38 O2 Si2



CM 2

CRN 52217-60-4

CMF C20 H46 O6 Si2



IC ICM H01B001-06

ICS H01M008-02; H01M008-10

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38

ST fuel cell proton conductive bridged inorg org
film manuf; silicon bridged org proton
conductive film fuel cell

IT Fuel cells
(PEFC; composite proton conductive
inorg.-organic films for fuel cells)

10/554,222-322849-EIC SEARCH

IT Fuel cell electrolytes
 (composite ~~proton~~ conductive inorg.-organic
 films for fuel cells)

IT 154619-15-3P 161000-64-2P
 273735-07-2P 770733-64-7P
 792931-71-6P 792931-72-7P
 792931-73-8P
 RL: DEV (Device component use); IMF (Industrial manufacture); PREP
 (Preparation); USES (Uses)
 (composite ~~proton~~ conductive inorg.-organic
 films for fuel cells)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE
 THIS RECORD (3 CITINGS)

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L47 ANSWER 4 OF 23 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2004:139198 HCAPLUS Full-text
 DOCUMENT NUMBER: 140:164777
 TITLE: Curable compositions including
 crosslinkable silyl-bearing vinyl
 polymers and storage stabilizers
 INVENTOR(S): Hasegawa, Nobuhiro; Nakagawa, Yoshiki
 PATENT ASSIGNEE(S): Kanegafuchi Chemical Industry Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 52 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2004051726	A	20040219	JP 2002-209230	2002 0718

PRIORITY APPLN. INFO.: <-- JP 2002-209230 2002
 0718

OTHER SOURCE(S): MARPAT 140:164777

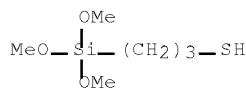
ED Entered STN: 20 Feb 2004

AB The compns. contain (i) vinyl polymers having crosslinkable silyl groups and (ii) storage stabilizers (e.g., dewatering agents like hydrolyzable esters, trialkyl orthoformates, organic silicones, etc.). The vinyl polymers may be prepared by atom-transfer radical polymerization catalyzed by transition metal-centered complexes. Thus, Bu acrylate was polymerized in the presence of CuBr, di-Et 2,5-dibromoadipate, and pentamethyldiethylenetriamine at 70° to give a polymer of Mn 21,000 and polydispersity 1.1, which was reacted with potassium undecenoate and then with SiH(OMe)₃ in the presence of Pt(0)-vinylsiloxane complex to give a silyl-induced acrylic polymer of Mn 26,000 and polydispersity 1.2. Then, 100 parts of the polymer was formulated with tri-Me orthoformate 7, DOP 50, pentaerythritol triacrylate 3 parts, and fillers and additives to give a curable composition showing no gelation after 2 wk at 50° and complete gelation within 1 day after addition of dibutyltin diacetate.

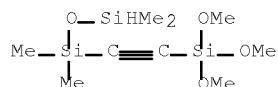
IT 4420-74-0DE, reaction products with alkenyl-terminated
 acrylate polymers 656247-27-7DE, hydrosilylation
 products with alkenyl-terminated poly(Bu acrylate)
 RL: IMF (Industrial manufacture); TEM (Technical or engineered
 material use); PREP (Preparation); USES (Uses)
 (cured; storage-stable curable compns.
 containing crosslinkable silyl-bearing vinyl polymers and
 dewatering agents)

RN 4420-74-0 HCAPLUS

CN 1-Propanethiol, 3-(trimethoxysilyl)- (CA INDEX NAME)



RN 656247-27-7 HCAPLUS

CN 3,8-Dioxa-2,4,7-trisilanon-5-yne, 7,7-dimethoxy-2,4,4-trimethyl-
(CA INDEX NAME)

IC ICM C08L057-06

ICS C08K005-10; C08K005-541

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 42

ST dewaterant blended hydrosilylation curable acrylate
compn; polybutyl acrylate methoxysilyl terminated orthoformate
blended storability; vinyltrimethoxysilane storage stabilizer
alkoxysilyl terminated acrylate polymer

IT Silsesquioxanes

RL: IMF (Industrial manufacture); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(acrylic; storage-stable curable compns. containing
crosslinkable silyl-bearing vinyl polymers and
dewatering agents)

IT Polymerization

(atom transfer, radical; storage-stable curable
compns. containing crosslinkable silyl-bearing vinyl
polymers and dewatering agents)

IT Esters, uses

RL: MOA (Modifier or additive use); TEM (Technical or engineered
material use); USES (Uses)
(hydrolyzable, dewatering agents; storage-stable
curable compns. containing crosslinkable
silyl-bearing vinyl polymers and dewatering agents)

IT Transition metal complexes

RL: CAT (Catalyst use); USES (Uses)
(radical polymerization catalysts; storage-stable curable
compns. containing crosslinkable silyl-bearing vinyl
polymers and dewatering agents)

IT Hydrosilylation

(storage-stable curable compns. containing
crosslinkable silyl-bearing vinyl polymers and
dewatering agents)

IT Coating materials

(storage-stable; storage-stable curable compns.
containing crosslinkable silyl-bearing vinyl polymers and
dewatering agents)IT 868-77-9DP, 2-Hydroxyethyl methacrylate, reaction products with
acrylate polymers and isocyanatopropyltrimethoxysilane
2487-90-3DP, Trimethoxysilane, hydrosilylation products with
alkenyl-terminated acrylate polymers 3710-30-3DP, 1,7-Octadiene,
reaction products with acrylate polymers and hydrosilanes
4420-74-0DP, reaction products with alkenyl-terminated
acrylate polymers 6159-41-7DP, reaction products with acrylate
polymers and hydrosilanes 9003-49-0DP, Poly(butyl acrylate),

10/554,222-322849-EIC SEARCH

reaction products with potassium undecenoate and hydrosilanes
 15396-00-6DP, 3-Isocyanatopropyltrimethoxysilane, reaction
 products with hydroxy-terminated acrylate polymers 16881-77-9DP,
 Dimethoxymethylsilane, hydrosilylation products with
 alkenyl-terminated poly(Bu acrylate) 93410-24-3DP, Butyl
 acrylate-ethyl acrylate-2-methoxyethyl acrylate copolymer,
 reaction products with octadiene and hydrosilanes
 636247-27-7DP, hydrosilylation products with
 alkenyl-terminated poly(Bu acrylate)

RL: IMF (Industrial manufacture); TEM (Technical or engineered
 material use); PREP (Preparation); USES (Uses)
 (cured; storage-stable curable compns.
 containing crosslinkable silyl-bearing vinyl polymers and
 dewatering agents)

IT 27775-58-2P, Pentaerythritol triacrylate homopolymer
 36446-02-3P, Trimethylolpropane triacrylate homopolymer
 RL: IMF (Industrial manufacture); TEM (Technical or engineered
 material use); PREP (Preparation); USES (Uses)
 (photocured components; storage-stable curable
 compns. containing crosslinkable silyl-bearing vinyl
 polymers and dewatering agents)

IT 11129-27-4, Copper bromide
 RL: CAT (Catalyst use); USES (Uses)
 (polymerization catalysts; storage-stable curable compns.
 containing crosslinkable silyl-bearing vinyl polymers and
 dewatering agents)

IT 78-10-4, Tetraethyl orthosilicate 149-73-5, Trimethyl
 orthoformate 2768-02-7, Vinyltrimethoxysilane
 RL: MOA (Modifier or additive use); TEM (Technical or engineered
 material use); USES (Uses)
 (storage stabilizers; storage-stable curable compns.
 containing crosslinkable silyl-bearing vinyl polymers and
 dewatering agents)

IT 112-38-9, 10-Undecenoic acid
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (storage-stable curable compns. containing
 crosslinkable silyl-bearing vinyl polymers and
 dewatering agents)

L47 ANSWER 5 OF 23 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2003:377173 HCAPLUS Full-text

DOCUMENT NUMBER: 138:371759

TITLE: Proton conductive
 membrane, its manufacture, and fuel
 cell using the membrane

INVENTOR(S): Nomura, Shigeki; Sugimoto, Toshiya; Nakamura,
 Masanori; Yamauti, Kenji

PATENT ASSIGNEE(S): Sekisui Chemical Co., Ltd., Japan

SOURCE: PCT Int. Appl., 120 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2003041091	A1	20030515	WO 2002-JP11242	2002 1029

<--

W: CA, CN, JP, KR, US

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR,
 IE, IT, LU, MC, NL, PT, SE, SK, TR

CA 2433320 A1 20030515 CA 2002-2433320

2002

10/554,222-322849-EIC SEARCH

1029

EP 1441365 A1 20040728 EP 2002-802706

2002

1029

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
MC, PT, IE, FI, CY, TR, BG, CZ, EE, SK
JP 3679104 B2 20050803 JP 2003-543039

2002

1029

CN 1230832 C 20051207 CN 2002-803316

2002

1029

US 20040062970 A1 20040401 US 2003-450845

2003

1021

US 7214756 B2 20070508
HK 1063528 A1 20060317 HK 2004-106177

2004

0818

US 20070213495 A1 20070913 US 2007-727036

2007

0323

PRIORITY APPLN. INFO.:

JP 2001-332977 A

2001

1030

JP 2002-29781 A

2002

0206

JP 2002-109493 A

2002

0411

WO 2002-JP11242 W

2002

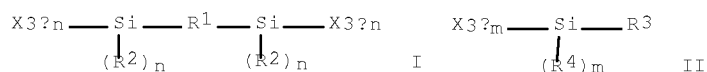
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US 2003-450845 A3

2003

1021

OTHER SOURCE(S): MARPAT 138:371759
ED Entered STN: 16 May 2003
GI



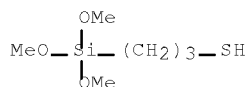
AB The ~~membrane~~ contains a C-containing organic-inorg. structure, crosslinked by Si-O units by covalent bonds, and an acid group cong. structure crosslinked by Si-O units by covalent bonds. Preferably, the composite structure is I, where X = a crosslinking -O- or OH, R1 = C1-50 side chain, R2 = ME, Et, PR, or Ph, and n = 0, 1, or 2; and the acid

10/554,222-322849-EIC SEARCH

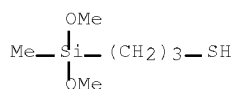
group. containing structure is II, where X = a crosslinking -O- or OH, R3 = sided chain containing ≥ 1 acid group, R4 = Me, Et, Pr, or Ph, and m = 0,1,or 2; and the membrane may also contain glass fibers or ceramic whiskers. The membrane is manufactured by: mixing crosslink-able silyl group containing precursors of the 2 structures, preparing membrane of the mixture, and hydrolyzing and condensate the precursors. The acid group may also be formed, after the condensation, by using precursors having function groups that can be to form acid groups by post-processing.

IT 4420-74-0DP, 3-Mercaptopropyltrimethoxysilane, hydrolyzed, condensation products with hydrolyzed silyl compds., oxidized 31001-77-1DP, 3-Mercaptopropylmethyldimethoxysilane, hydrolyzed, condensed, oxidized 70942-24-4DP, hydrolyzed, condensation products with hydrolyzed silyl compds. 161000-64-2DP, X-41-1805, hydrolyzed, condensation products with hydrolyzed silyl compds., oxidized 469867-63-8DP, 1,8-Bis(diethoxymethylsilyl)octane, hydrolyzed, condensation products with hydrolyzed silyl compds. 524729-75-8DP, hydrolyzed, condensation products with hydrolyzed silyl compds., oxidized
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (compns. and manufacture of proton conductive membranes for fuel cell electrolytes)

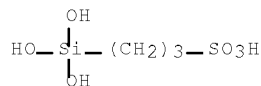
RN 4420-74-0 HCAPLUS
 CN 1-Propanethiol, 3-(trimethoxysilyl)- (CA INDEX NAME)



RN 31001-77-1 HCAPLUS
 CN 1-Propanethiol, 3-(dimethoxymethylsilyl)- (CA INDEX NAME)



RN 70942-24-4 HCAPLUS
 CN 1-Propanesulfonic acid, 3-(trihydroxysilyl)- (CA INDEX NAME)

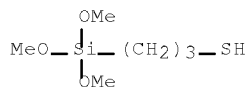


RN 161000-64-2 HCAPLUS
 CN Silicic acid (H4SiO4), tetraethyl ester, polymer with 3-(trimethoxysilyl)-1-propanethiol (CA INDEX NAME)

CM 1

CRN 4420-74-0

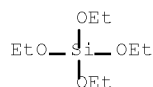
CMF C6 H16 O3 S Si



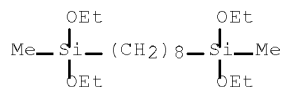
CM 2

CRN 78-10-4

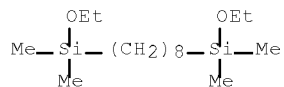
CMF C8 H20 O4 Si



RN 469867-63-8 HCAPLUS

CN 3,14-Dioxa-4,13-disilahexadecane, 4,13-diethoxy-4,13-dimethyl-
(CA INDEX NAME)

RN 524729-76-8 HCAPLUS

CN 3,14-Dioxa-4,13-disilahexadecane, 4,4,13,13-tetramethyl- (CA
INDEX NAME)

IC ICM H01B001-06

ICS H01M008-02; H01M008-10; C08J005-22; C08G077-50

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

ST fuel cell ~~proton conductive~~ silicon contg
polymer ~~membrane~~ manuf

IT Glass fibers, uses

RL: MOA (Modifier or additive use); USES (Uses)
(compns. and manufacture of ~~proton conductive~~
~~membranes~~ containing glass whiskers and glass fibers for
fuel cell electrolytes)IT Electric ~~conductors~~Fuel cell electrolytes
(compns. and manufacture of ~~proton conductive~~
~~membranes~~ for fuel cell electrolytes)

IT Polysiloxanes, uses

RL: IMF (Industrial manufacture); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(di-Me, di-Ph, hydroxy-terminated, hydrolyzed, condensation
products with hydrolyzed silyl compds.; compns. and manufacture of

10/554,222-322849-EIC SEARCH

proton conductive membranes for
fuel cell electrolytes)

- IT Polysiloxanes, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(mercapto, hydrolyzed, condensation products with hydrolyzed silyl compds., oxidized; compns. and manufacture of proton conductive membranes for fuel cell electrolytes)
- IT 12056-51-8, Potassium titanium oxide (K₂Ti₆O₁₃) 12400-04-3, Aluminum borate oxide (Al₂(BO₂)₄O)
RL: MOA (Modifier or additive use); USES (Uses)
(compns. and manufacture of proton conductive membranes containing glass whiskers and glass fibers for fuel cell electrolytes)
- IT 4420-74-0DP, 3-Mercaptopropyltrimethoxysilane, hydrolyzed, condensation products with hydrolyzed silyl compds., oxidized 4420-74-0DP, 3-Mercaptopropyltrimethoxysilane, hydrolyzed, condensed, oxidized 7631-90-5DP, Sodium bisulfite, reaction products with hydrolyzed silyl compds. 28323-47-9DP, PSI 021, hydrolyzed, condensation products with hydrolyzed silyl compds. 31001-77-1DP, 3-Mercaptopropylmethyldimethoxysilane, hydrolyzed, condensed, oxidized 31692-79-2DP, DMS s12, hydrolyzed, condensation products with hydrolyzed silyl compds. 40372-72-3DP, SIB 1825.0, hydrolyzed, condensation products with hydrolyzed silyl compds., oxidized 51826-90-5DP, 3-Bromopropyltrimethoxysilane, hydrolyzed, condensed, reaction products with sodium bisulfite 52217-60-4DP, 1,8-Bis(triethoxysilyl)octane, hydrolyzed, condensation products with hydrolyzed silyl compds. 56706-10-6DP, KBE 886B, hydrolyzed, condensation products with hydrolyzed silyl compds., oxidized 70942-24-4DP, hydrolyzed, condensation products with hydrolyzed silyl compds. 87135-01-1DP, 1,6-Bis(trimethoxysilyl)hexane, hydrolyzed, condensation products with hydrolyzed silyl compds. 148229-61-2DP, hydrolyzed, condensation products with hydrolyzed silyl compds. 161000-64-2DP, X-41-1805, hydrolyzed, condensation products with hydrolyzed silyl compds., oxidized 164849-42-7DP, X 40-2090, hydrolyzed, condensation products with hydrolyzed silyl compds. 469867-63-8DP, 1,8-Bis(diethoxymethylsilyl)octane, hydrolyzed, condensation products with hydrolyzed silyl compds. 469867-63-8DP, 1,8-Bis(diethoxymethylsilyl)octane, hydrolyzed, condensation products with hydrolyzed silyl compds., oxidized 524729-75-7DP, hydrolyzed, condensation products with hydrolyzed silyl compds., oxidized 524729-76-8DP, hydrolyzed, condensation products with hydrolyzed silyl compds., oxidized
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(compns. and manufacture of proton conductive membranes for fuel cell electrolytes)
- OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD (11 CITINGS)
- REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 6 OF 23 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2003:6011 HCAPLUS Full-text
DOCUMENT NUMBER: 138:56876
TITLE: Rapid curable composition containing silyl group-terminated vinyl polymer excellent curability
INVENTOR(S): Hasegawa, Nobuhiro; Nakagawa, Yoshiki
PATENT ASSIGNEE(S): Kaneka Corporation, Japan
SOURCE: PCT Int. Appl., 105 pp.
CODEN: PIXXD2

10/554,222-322849-EIC SEARCH

DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003000749	A1	20030103	WO 2002-JP3539	2002 0409

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W: JP, US
 RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU,
 MC, NL, PT, SE, TR
 EP 1406932 A1 20040414 EP 2002-714561
 2002
 0409

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EP 1406932 B1 20071212
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
 MC, PT, IE, FI, CY, TR
 JP 2005502737 T 20050127 JP 2003-507152
 2002
 0409

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US 20040210019 A1 20041021 US 2004-481283
 2004
 0524

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PRIORITY APPLN. INFO.: JP 2001-188550 A
 2001
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WO 2002-JP3539 W
 2002
 0409

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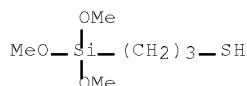
ED Entered STN: 05 Jan 2003

AB A quick curing composition comprises a vinyl polymer having a crosslinking silyl group-terminated main chain, wherein the crosslinking silyl group is represented by the general formula -SiY_aR_{3-a}, wherein R represents an C1-C20 alkyl group, an C6-C20 aryl group, a C7-C20 alkyl group or a triorganosiloxy group represented by (R') SiO-, R' is a univalent C1-C20 hydrocarbon group and the three R' groups may be the same or different, and, when there are two or more R groups, they may be the same or different; Y represents a hydroxyl group or a hydrolyzable group and, when there are two or more Y groups, they may be the same or different; and a represents 1, 2 or 3. Thus, a composition with skinning time 0.3 h was prepared from reaction products of polybutyl acrylate, potassium undecenoate, and trimethoxysilane in the presence of dibutyltin diacetylacetonate (U 220, curing catalyst).

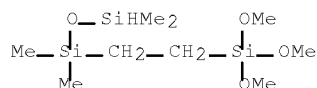
IT 4420-74-000F, 3-Mercaptopropyltrimethoxysilane, reaction products with alkenyl group-containing polymer 137407-65-900F, 1-(2-Trimethoxysilylethyl)-1,1,3,3-tetramethyldisiloxane, reaction products with alkenyl group-containing polymer
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (preparation rapid curable composition containing silyl group-terminated vinyl polymer excellent curability)

RN 4420-74-0 HCAPLUS

CN 1-Propanethiol, 3-(trimethoxysilyl)- (CA INDEX NAME)



RN 137407-65-9 HCAPLUS
 CN 3,8-Dioxa-2,4,7-trisilanonane, 7,7-dimethoxy-2,4,4-trimethyl- (CA
 INDEX NAME)



IC ICM C08F008-42
 CC 37-6 (Plastics Manufacture and Processing)
 ST curing compn polybutyl acrylate potassium undecenoate
 trimethoxysilane
 IT Linseed oil
 Tung oil
 RL: MOA (Modifier or additive use); USES (Uses)
 (air oxidation curing agent; preparation rapid
 curable composition containing silyl group-terminated vinyl
 polymer excellent curability)
 IT Crosslinking agents
 Crosslinking catalysts
 (preparation rapid curable composition containing silyl
 group-terminated vinyl polymer excellent curability)
 IT Polysiloxanes, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (preparation rapid curable composition containing silyl
 group-terminated vinyl polymer excellent curability)
 IT 471-34-1, Hakuenka CCR, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (Nanox 25A, filler; preparation rapid curable composition
 containing silyl group-terminated vinyl polymer excellent
 curability)
 IT 2627-95-4D, 1,1,3,3-Tetramethyl-1,3-divinyldisiloxane, platinum
 complex 4288-15-7, Stannous octylate 7440-06-4D, Platinum,
 1,1,3,3-tetramethyl-1,3-divinyldisiloxane complex 22673-19-4, U
 220
 RL: CAT (Catalyst use); USES (Uses)
 (curing catalyst; preparation rapid curable
 composition containing silyl group-terminated vinyl polymer excellent
 curability)
 IT 124-22-1, Laurylamine
 RL: CAT (Catalyst use); USES (Uses)
 (curing promoter; preparation rapid curable
 composition containing silyl group-terminated vinyl polymer excellent
 curability)
 IT 2768-02-7, Vinyltrimethoxysilane
 RL: MOA (Modifier or additive use); USES (Uses)
 (dehydrating agent; preparation rapid curable composition
 containing silyl group-terminated vinyl polymer excellent
 curability)
 IT 11097-59-9, Kyowaad 500SH 54065-80-4, Kyowaad 700PEL
 RL: MOA (Modifier or additive use); USES (Uses)
 (filler; preparation rapid curable composition containing silyl
 group-terminated vinyl polymer excellent curability)
 IT 6159-41-7P, 10-Undecenoic acid, potassium salt
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP

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- (Preparation); RACT (Reactant or reagent)
(intermediate; preparation rapid curable composition containing silyl group-terminated vinyl polymer excellent curability)
- IT 9003-17-2
RL: MOA (Modifier or additive use); USES (Uses)
(of 1,2-configuration, air oxidation curing agent; preparation rapid curable composition containing silyl group-terminated vinyl polymer excellent curability)
- IT 10441-87-9, Trimethylolpropane triacetate 13051-30-4, Pentaerythritol triacetate
RL: MOA (Modifier or additive use); USES (Uses)
(photocuring agent; preparation rapid curable composition containing silyl group-terminated vinyl polymer excellent curability)
- IT 117-81-7, DOP 9003-07-0, PN 260
RL: MOA (Modifier or additive use); USES (Uses)
(plasticizer; preparation rapid curable composition containing silyl group-terminated vinyl polymer excellent curability)
- IT 149-73-5
RL: CAT (Catalyst use); USES (Uses)
(preparation rapid curable composition containing silyl group-terminated vinyl polymer excellent curability)
- IT 127-08-2DP, Potassium acetate, reaction products with Bu acrylate polymer 582-25-2DP, Potassium benzoate, reaction products with Bu acrylate-1,7-octadiene copolymer 2487-90-3DP, Trimethoxysilane, reaction products with alkenyl group-containing polymer 4420-74-0SE, 3-Mercaptopropyltrimethoxysilane, reaction products with alkenyl group-containing polymer 9003-49-0DP, Butyl acrylate homopolymer, reaction products with 10-undecenoic acid, potassium salt 9003-49-0P, Butyl acrylate homopolymer 16881-77-9DP, Dimethoxymethylsilane, reaction products with alkenyl group-containing polymer 30600-43-2DP, Butyl acrylate-2-hydroxyethyl methacrylate copolymer, reaction products with isocyanatopropyltrimethoxysilane 137407-65-9SE, 1-(2-Trimethoxysilylethyl)-1,1,3,3-tetramethyldisiloxane, reaction products with alkenyl group-containing polymer 221172-33-4DP, Butyl acrylate-1,7-octadiene copolymer, reaction products with potassium benzoate
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation rapid curable composition containing silyl group-terminated vinyl polymer excellent curability)
- IT 6159-41-7DP, 10-Undecenoic acid, potassium salt, reaction products with poly(Bu acrylate)
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation rapid curable composition containing silyl group-terminated vinyl polymer excellent curability)
- IT 77-99-6D, Trimethylolpropane, tris(trimethylsilyl) derivs. 999-97-3, Hexamethyldisilazane 1529-17-5, Trimethylphenoxysilane
RL: MOA (Modifier or additive use); USES (Uses)
(preparation rapid curable composition containing silyl group-terminated vinyl polymer excellent curability)
- IT 15396-00-6D, γ -Isocyanatopropyltrimethoxysilane, reaction products with Bu acrylate-2-hydroxyethyl methacrylate copolymer
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(preparation rapid curable composition containing silyl group-terminated vinyl polymer excellent curability)
- IT 112-38-9, 10-Undecenoic acid 865-47-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; preparation rapid curable composition containing silyl group-terminated vinyl polymer excellent

10/554,222-322849-EIC SEARCH

curability)
 OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE
 THIS RECORD (3 CITINGS)
 REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L47 ANSWER 7 OF 23 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2002:607773 HCAPLUS Full-text
 DOCUMENT NUMBER: 137:156191
 TITLE: Primer compositions with durable adhesion to
 silicone rubbers
 INVENTOR(S): Inoue, Yoshifumi; Kozai, Toshiyuki; Hara,
 Hiroyasu
 PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002226777	A	20020814	JP 2001-30121	2001 0206
JP 4115673	B2	20080709	JP 2001-30121	2001 0206

PRIORITY APPLN. INFO.: <--

ED Entered STN: 14 Aug 2002

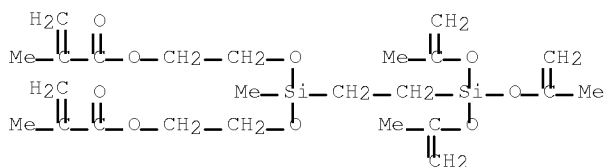
AB Title compns. contain organic silicones (HCRI:CR2COOZ1)3-mSiR3mZ2SiR3nX3-n [R1 = H or (halogenated) Ph; R2 = H or Me; R3 = (substituted) C1-10 hydrocarbyl; X = hydrolyzable group; Z1 = R4, R4O, R4(CH3)2SiO with R4 = (substituted) C1-10 hydrocarbylene; Z2 = O or (substituted) C1-10 hydrocarbylene; m = 0-2; n = 0-2]. An Al plate was coated with a composition comprising BuOH, Ti(OBu)4, and 1-methyl-bis(2-methacryloxyethoxy)silyl-2- triisopropenoxysilylethane [from Cl2MeSiH, vinyltris(isopropenyloxy)silane, and 2-hydroxyethyl methacrylate], dried, covered with a KE 1330, and press-cured at 120° for 10 min to form a laminate showing good adhesion initially and after 103 h at 230°.

IT 419548-80-4P 419548-81-5P
 419548-82-6P 419548-85-9P
 419548-86-0P 445389-38-2P
 445389-59-3P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP
 (Preparation); RACT (Reactant or reagent)
 ((meth)acryloxy- and alkoxy-containing silane-based primers for
 silicone rubbers with heat-resistant adhesion to (
 coated) metals or plastics)

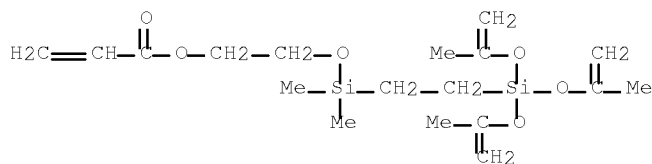
RN 419548-80-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-,
 [methyl[2-[tris[(1-methylethenyl)oxy]silyl]ethyl]silylene]bis(oxy-
 2,1-ethanediyl) ester (9CI) (CA INDEX NAME)

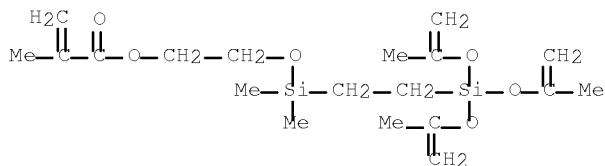


10/554,222-322849-EIC SEARCH

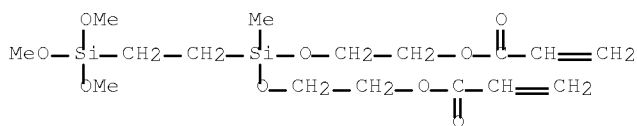
RN 419548-81-5 HCAPLUS

CN 2-Propenoic acid, 4,4,9-trimethyl-7,7-bis[(1-methylethenyl)oxy]-
3,8-dioxa-4,7-disiladec-9-en-1-yl ester (CA INDEX NAME)

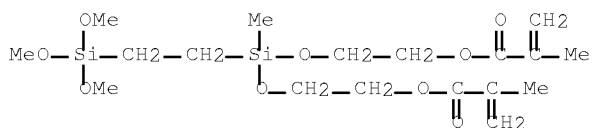
RN 419548-82-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-,
4,4,9-trimethyl-7,7-bis[(1-methylethenyl)oxy]-3,8-dioxa-4,7-
disiladec-9-en-1-yl ester (CA INDEX NAME)

RN 419548-85-9 HCAPLUS

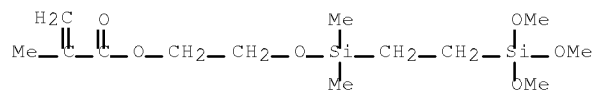
CN 2-Propenoic acid, [methyl[2-(
(trimethoxysilyl)ethyl)silylene]bis(oxy-2,1-ethanediyl) ester
(9CI) (CA INDEX NAME)

RN 419548-86-0 HCAPLUS

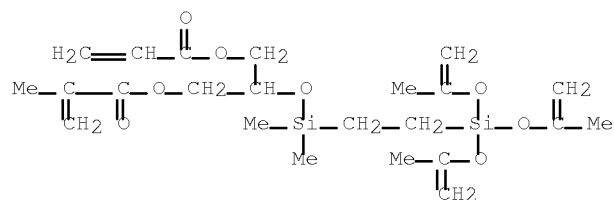
CN 2-Propenoic acid, 2-methyl-,
[methyl[2-(trimethoxysilyl)ethyl)silylene]bis(oxy-2,1-ethanediyl)
ester (9CI) (CA INDEX NAME)

10/554,222-322849-EIC SEARCH

RN 445389-58-2 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-,
 7,7-dimethoxy-4,4-dimethyl-3,8-dioxa-4,7-disilanon-1-yl ester (CA
 INDEX NAME)



RN 445389-59-3 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-,
 4,4,9-trimethyl-7,7-bis[(1-methylethenyl)oxy]-2-[[[(1-oxo-2-propen-1-yl)oxy]methyl]-3,8-dioxa-4,7-disiladec-9-en-1-yl ester (CA
 INDEX NAME)



IT 445389-60-6P 445389-61-7P
 445389-62-8P 445389-64-0P
 445389-65-1P 445389-69-5P
 445389-70-8P 445389-71-9P
 445389-72-0P

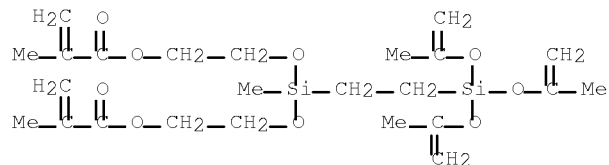
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 ((meth)acryloxy- and alkoxy-containing silane-based primers for silicone rubbers with heat-resistant adhesion to (coated) metals or plastics)

RN 445389-60-6 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-,
 [methyl[2-[tris[(1-methylethenyl)oxy]silyl]ethyl]silylene]bis(oxy-2,1-ethanediyl) ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 419548-80-4

CMF C24 H40 O9 Si2



RN 445389-61-7 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-,
 [methyl[2-(trimethoxysilyl)ethyl]silylene]bis(oxy-2,1-ethanediyl)

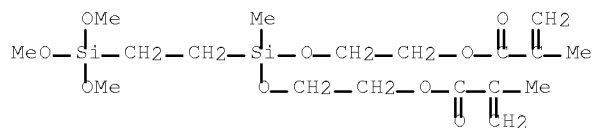
10/554,222-322849-EIC SEARCH

ester, polymer with silicic acid (H4SiO4) tetraethyl ester (9CI)
(CA INDEX NAME)

CM 1

CRN 419548-86-0

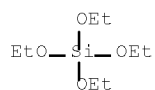
CMF C18 H34 O9 Si2



CM 2

CRN 78-10-4

CMF C8 H20 O4 Si



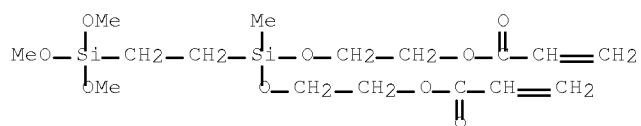
RN 445389-62-8 HCAPLUS

CN 2-Propenoic acid, [methyl[2-(trimethoxysilyl)ethyl]silylene]bis(oxy-2,1-ethanediyl) ester, polymer with silicic acid (H4SiO4) tetraethyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 419548-85-9

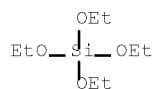
CMF C16 H30 O9 Si2



CM 2

CRN 78-10-4

CMF C8 H20 O4 Si

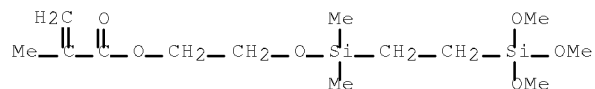


10/554,222-322849-EIC SEARCH

RN 445389-64-0 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-,
 7,7-dimethoxy-4,4-dimethyl-3,8-dioxo-4,7-disilanon-1-yl ester,
 polymer with 3-(trimethoxysilyl)-1-propanethiol (9CI) (CA INDEX
 NAME)

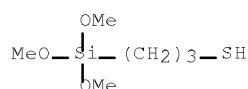
CM 1

CRN 445389-58-2
 CMF C13 H28 O6 Si2



CM 2

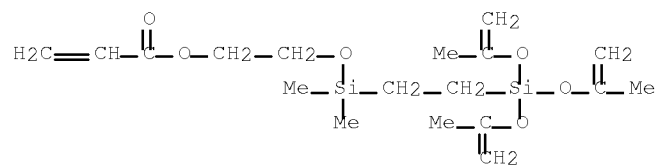
CRN 4420-74-0
 CMF C6 H16 O3 S Si



RN 445389-65-1 HCAPLUS
 CN 2-Propenoic acid, 4,4,9-trimethyl-7,7-bis[(1-methylethenyl)oxy]-
 3,8-dioxo-4,7-disiladec-9-en-1-yl ester, polymer with
 trimethoxymethylsilane and 3-(trimethoxysilyl)-1-propanethiol
 (9CI) (CA INDEX NAME)

CM 1

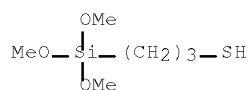
CRN 419548-81-5
 CMF C18 H32 O6 Si2



CM 2

CRN 4420-74-0
 CMF C6 H16 O3 S Si

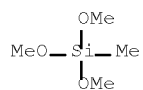
10/554,222-322849-EIC SEARCH



CM 3

CRN 1185-55-3

CMF C4 H12 O3 Si



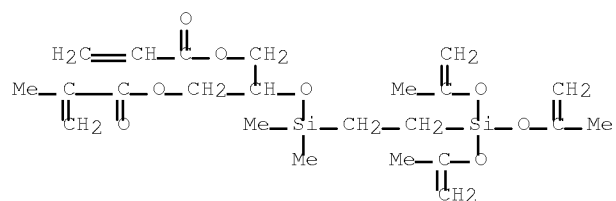
RN 445389-69-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-,
4,4,9-trimethyl-7,7-bis[(1-methylethenyl)oxy]-2-[[(1-oxo-2-propenyl)oxy]methyl]-3,8-dioxa-4,7-disiladec-9-en-1-yl ester,
polymer with 3-(triethoxysilyl)-1-propanamine and
3-(trimethoxysilyl)-1-propanethiol (9CI) (CA INDEX NAME)

CM 1

CRN 445389-59-3

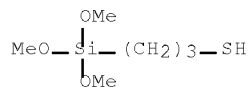
CMF C23 H38 O8 Si2



CM 2

CRN 4420-74-0

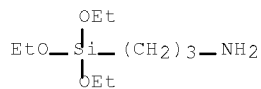
CMF C6 H16 O3 S Si



CM 3

CRN 919-30-2

CMF C9 H23 N O3 Si



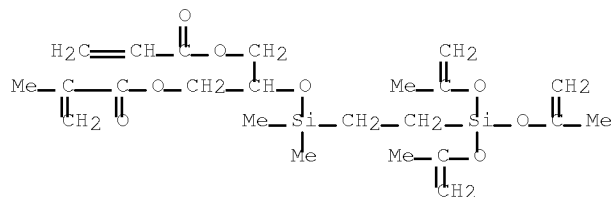
RN 445389-70-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester,
polymer with trimethoxymethylsilane and
4,4,9-trimethyl-7,7-bis[(1-methylethenyl)oxy]-2-[[(1-oxo-2-
propenyl)oxy]methyl]-3,8-dioxo-4,7-disiladec-9-en-1-yl
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 445389-59-3

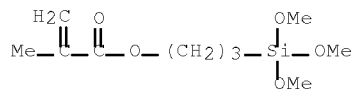
CMF C23 H38 O8 Si2



CM 2

CRN 2530-85-0

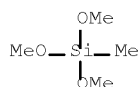
CMF C10 H20 O5 Si



CM 3

CRN 1185-55-3

CMF C4 H12 O3 Si



RN 445389-71-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester,
polymer with 3-(triethoxysilyl)-1-propanamine,
trimethoxymethylsilane and
4,4,9-trimethyl-7,7-bis[(1-methylethenyl)oxy]-3,8-dioxo-4,7-

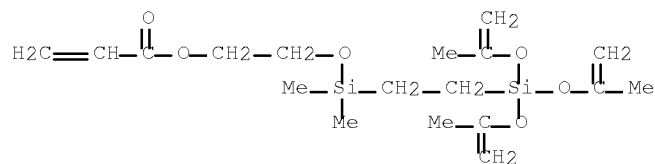
10/554,222-322849-EIC SEARCH

disiladec-9-en-1-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 419548-81-5

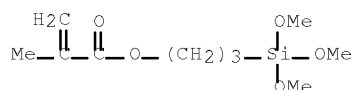
CMF C18 H32 O6 Si2



CM 2

CRN 2530-85-0

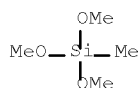
CMF C10 H20 O5 Si



CM 3

CRN 1185-55-3

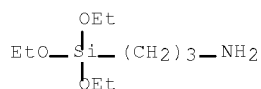
CMF C4 H12 O3 Si



CM 4

CRN 919-30-2

CMF C9 H23 N O3 Si



RN 445389-72-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, polymer with trimethoxymethylsilane, 3-(trimethoxysilyl)-1-propanethiol and 4,4,9-trimethyl-7,7-bis[(1-methylethenyl)oxy]-2-[[[1-oxo-2-

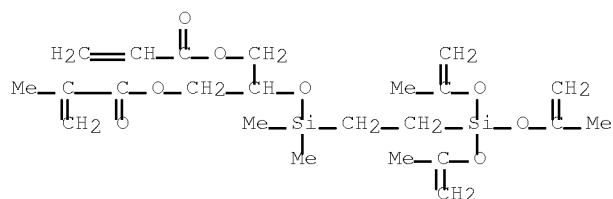
10/554,222-322849-EIC SEARCH

propenyl)oxy)methyl]-3,8-dioxa-4,7-disiladec-9-en-1-yl
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 445389-59-3

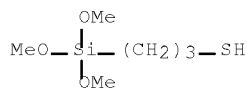
CMF C23 H38 O8 Si2



CM 2

CRN 4420-74-0

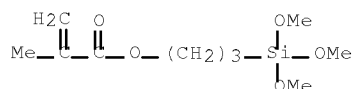
CMF C6 H16 O3 S Si



CM 3

CRN 2530-85-0

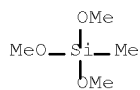
CMF C10 H20 O5 Si



CM 4

CRN 1185-55-3

CMF C4 H12 O3 Si



IT 445389-63-98

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

10/554,222-322849-EIC SEARCH

((meth)acryloxy- and alkoxy-containing silanes from;
 (meth)acryloxy- and alkoxy-containing silane-based primers for
 silicone rubbers with heat-resistant adhesion to (
 coated) metals or plastics)

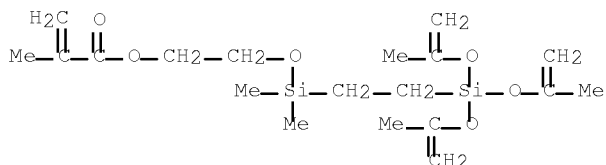
RN 445389-63-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-,
 4,4,9-trimethyl-7,7-bis[(1-methylethenyl)oxy]-3,8-dioxa-4,7-
 disiladec-9-en-1-yl ester, polymer with ethenyltrimethoxysilane
 (9CI) (CA INDEX NAME)

CM 1

CRN 419548-82-6

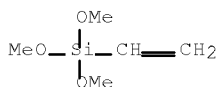
CMF C19 H34 O6 Si2



CM 2

CRN 2768-02-7

CMF C5 H12 O3 Si



IC ICM C09D183-04

ICS C09D005-00; C09D143-04

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 39

ST metal laminate silicone rubber acryloxyalkoxysilane
 primer; plastic laminate silicone rubber
 acryloxyalkoxysilane primer; heat resistant adhesion
 acryloxyalkoxysilane primer silicone rubber

IT Primers (paints)

((meth)acryloxy- and alkoxy-containing silane-based primers for
 silicone rubbers with heat-resistant adhesion to (
 coated) metals or plastics)

IT Polysiloxanes, uses

Silsesquioxanes

RL: IMF (Industrial manufacture); TEM (Technical or engineered
 material use); PREP (Preparation); USES (Uses)

((meth)acryloxy- and alkoxy-containing silane-based primers for
 silicone rubbers with heat-resistant adhesion to (
 coated) metals or plastics)

IT Silicone rubber, miscellaneous

RL: MSC (Miscellaneous)

(KE 17, KLE 17; (meth)acryloxy- and alkoxy-containing silane-based
 primers for silicone rubbers with heat-resistant adhesion to (
 coated) metals or plastics)

IT Adhesives

10/554,222-322849-EIC SEARCH

(heat-resistant; (meth)acryloxy- and alkoxy-containing silane-based primers for silicone rubbers with heat-resistant adhesion to (coated) metals or plastics)

IT Fluoropolymers, miscellaneous
Metals, miscellaneous
Polyamides, miscellaneous
Polycarbonates, miscellaneous
RL: MSC (Miscellaneous)
(substrates; (meth)acryloxy- and alkoxy-containing silane-based primers for silicone rubbers with heat-resistant adhesion to (coated) metals or plastics)

IT Silicone rubber, miscellaneous
RL: MSC (Miscellaneous)
(vinyl group-containing, KE 951U; (meth)acryloxy- and alkoxy-containing silane-based primers for silicone rubbers with heat-resistant adhesion to (coated) metals or plastics)

IT 419548-80-4P 419548-81-5P
419548-82-6P 419548-83-7P 419548-85-9P
419548-86-0P 445389-58-2P
445389-59-3P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
((meth)acryloxy- and alkoxy-containing silane-based primers for silicone rubbers with heat-resistant adhesion to (coated) metals or plastics)

IT 445389-60-6P 445389-61-7P
445389-62-8P 445389-64-0P
445389-65-1P 445389-67-3P 445389-69-5P
445389-70-8P 445389-71-9P
445389-72-0P 445389-73-1P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
((meth)acryloxy- and alkoxy-containing silane-based primers for silicone rubbers with heat-resistant adhesion to (coated) metals or plastics)

IT 445389-63-9P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
((meth)acryloxy- and alkoxy-containing silanes from;
(meth)acryloxy- and alkoxy-containing silane-based primers for silicone rubbers with heat-resistant adhesion to (coated) metals or plastics)

IT 75-54-7, Dichloromethylsilane 681-84-5, Tetramethoxysilane 818-61-1, 2-Hydroxyethyl acrylate 868-77-9, 2-Hydroxyethyl methacrylate 1066-35-9, Dimethylchlorosilane 1709-71-3, 2-Hydroxy-1-acryloxy-3-methacryloxypropane 2768-02-7, Vinyltrimethoxysilane 15332-99-7, Vinyltriisopropenoxysilane 118536-45-1
RL: RCT (Reactant); RACT (Reactant or reagent)
((meth)acryloxy- and alkoxy-containing silanes from;
(meth)acryloxy- and alkoxy-containing silane-based primers for silicone rubbers with heat-resistant adhesion to (coated) metals or plastics)

L47 ANSWER 8 OF 23 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2001:844937 HCAPLUS Full-text
DOCUMENT NUMBER: 135:372554
TITLE: Waterborne silicone adhesives, sealants and coatings, silicone emulsion, and application to substrate
INVENTOR(S): Huang, Misty Weiyu; Waldman, Bruce A.; Cooke, Jeff A.
PATENT ASSIGNEE(S): CK Witco Corp., USA
SOURCE: U.S., 8 pp., Cont.-in-part of U.S. 6,037,008.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English

10/554,222-322849-EIC SEARCH

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
US 6319982	B1	20011120	US 1999-340347	1999 0625
AT 313609	T	20060115	<-- AT 1999-117416	1999 0907
ES 2252897	T3	20060516	<-- ES 1999-117416	1999 0907
CN 1249320	A	20000405	<-- CN 1999-121885	1999 0908
CN 1245461	C	20060315	<--	
KR 2000022967	A	20000425	KR 1999-38009	1999 0908
JP 2000212513	A	20000802	<-- JP 1999-253701	1999 0908
BR 9904091	A	20000912	<-- BR 1999-4091	1999 0908
MX 9908255	A	20000930	<-- MX 1999-8255	1999 0908
TW 554024	B	20030921	<-- TW 1999-88115490	1999 0908
US 6294620	B1	20010925	<-- US 2000-524632	2000 0314
WO 2001000711	A1	20010104	<-- WO 2000-US15977	2000 0609
<--				
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1194475	A1	20020410	EP 2000-942734	2000 0609
<--				
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

10/554,222-322849-EIC SEARCH

JP 2003503570	T	20030128	JP 2001-506718	2000 0609
			<--	
HK 1024496	A1	20060908	HK 2000-103653	2000 0616
			<--	
JP 2006124713	A	20060518	JP 2005-326250	2005 1110
			<--	
PRIORITY APPLN. INFO.:		US 1998-149337	A2	1998 0908
			<--	
		US 1999-340347	A	1999 0625
			<--	
		JP 2001-506718	A3	2000 0609
			<--	
		WO 2000-US15977	W	2000 0609
			<--	

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 21 Nov 2001

AB A storage stable aqueous silicone emulsion composition which ~~cures~~ upon drying comprises a blend of (a) ≥ 1 emulsion which collectively comprise a reactive polymer/~~crosslinker~~ system comprising ≥ 1 condensable polyorganosiloxane polymer and ≥ 1 ~~crosslinking~~ compound which may be the same or different than the condensable polyorganosiloxane polymer, the ~~crosslinking~~ compound having several hindered alkoxy groups, and (b) a sep. aqueous emulsion comprising a silicon condensation catalyst.

IT 210548-76-8P 315716-81-5P

RL: IMF (Industrial manufacture); POF (Polymer in formulation);

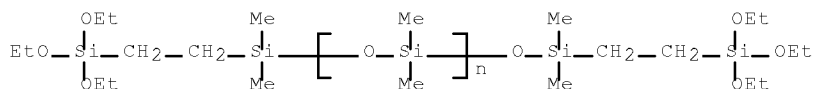
TEM (Technical or engineered material use); PREP (Preparation);

USES (Uses)

(Storage stable aqueous silicone emulsion composition used as adhesives, sealants and ~~coatings~~)

RN 210548-76-8 HCAPLUS

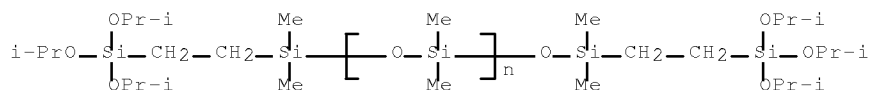
CN Poly[oxy(dimethylsilylene)],
 α -[dimethyl[2-(triethoxysilyl)ethyl]silyl]- ω -
 [[dimethyl[2-(triethoxysilyl)ethyl]silyl]oxy]- (CA INDEX NAME)



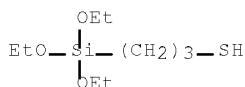
RN 315716-81-5 HCAPLUS

CN Poly[oxy(dimethylsilylene)],
 α -[dimethyl[2-[tris(1-methylethoxy)silyl]ethyl]silyl]-
 ω -[[dimethyl[2-[tris(1-methylethoxy)silyl]ethyl]silyl]oxy]-
 (9CI) (CA INDEX NAME)

10/554,222-322849-EIC SEARCH



IT 14814-09-6, 3-Mercaptopropyltriethoxysilane
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
 (adhesion promoter; Storage stable aqueous silicone emulsion composition used as adhesives, sealants and coatings)
 RN 14814-09-6 HCAPLUS
 CN 1-Propanethiol, 3-(triethoxysilyl)- (CA INDEX NAME)



IC ICM C08L083-06
 INCL 524837000
 CC 37-6 (Plastics Manufacture and Processing)
 ST crosslinkable silicone emulsion; waterborne organopolysiloxane adhesive sealant coating
 IT Adhesion promoters
 Adhesives
 Coating materials
 Crosslinking agents
 Sealing compositions
 (Storage stable aqueous silicone emulsion composition used as adhesives, sealants and coatings)
 IT Polysiloxanes, preparation
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (having hydrolyzed hindered alkoxy end groups; Storage stable aqueous silicone emulsion composition used as adhesives, sealants and coatings)
 IT 210548-76-8P 315716-81-5P
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (Storage stable aqueous silicone emulsion composition used as adhesives, sealants and coatings)
 IT 2602-34-8, 3-Glycidoxypropyltriethoxysilane 10217-34-2, β -(3,4-Epoxy cyclohexyl)-ethyltriethoxysilane 14814-09-6, 3-Mercaptopropyltriethoxysilane 17865-41-7 18545-02-3, Triisobutoxyvinylsilane 20208-39-3 21142-29-0, 3-Methacryloxypropyltriethoxysilane 80750-05-6, 3-Methacryloxypropyltriisopropoxysilane 82194-46-5, Tris(3-triethoxysilylpropyl)isocyanurate 108764-53-0 189450-93-9, β -(3,4-Epoxy cyclohexyl)-ethyltriisobutoxysilane 189458-71-7, 3-Methacryloxypropyltriisobutoxysilane 261155-85-5
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
 (adhesion promoter; Storage stable aqueous silicone emulsion composition used as adhesives, sealants and coatings)
 IT 78-08-0, Triethoxyvinylsilane 18023-33-1, Triisopropoxyvinylsilane
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (hydrosilation; Storage stable aqueous silicone emulsion composition

10/554,222-322849-EIC SEARCH

used as adhesives, sealants and coatings)
 IT 68298-38-4, FASCAT 4224
 RL: CAT (Catalyst use); USES (Uses)
 (organotin catalyst; Storage stable aqueous silicone emulsion
 composition used as adhesives, sealants and coatings)
 OS.CITING REF COUNT: 7 THERE ARE 7 CAPLUS RECORDS THAT CITE
 THIS RECORD (7 CITINGS)
 REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L47 ANSWER 9 OF 23 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2000:484156 HCAPLUS Full-text
 DOCUMENT NUMBER: 133:90513
 TITLE: Curable resin compositions
 containing dendritic graft copolymers and
 cured products with excellent
 flexibility
 INVENTOR(S): Morita, Koji; Ueki, Hiroshi; Aso, Takayuki;
 Furukawa, Haruhiko; Yoshitake, Makoto
 PATENT ASSIGNEE(S): Dow Corning Toray Silicone Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2000198939	A	20000718	JP 1999-135865	1999 0517

PRIORITY APPLN. INFO.: <--
 JP 1998-305137 A
 1998
 1027
 <--

ED Entered STN: 18 Jul 2000
 AB The compns., useful for sealants, adhesives, etc., contain curable resins and vinyl
 polymers having side chains with carbosiloxane dendritic structures. Thus, a
 composition containing novolak 100, copolymer (prepared from methacrylic acid-
 terminated dendrimer 29.6, glycidyl methacrylate 4.8, and Bu acrylate 60.0 parts) 20,
 and hexamethylenetetramine 11.4 parts was molded into a test piece showing flexural
 modulus 990 kg/cm² and thermal expansion coefficient 0.7 + 10⁻⁵ /°C. A semiconductor
 device sealed with the composition showed good thermal shock resistance.

IT 282098-47-9F 282098-49-1F
 RL: IMF (Industrial manufacture); POF (Polymer in formulation);
 PRP (Properties); TEM (Technical or engineered material use); PREP
 (Preparation); USES (Uses)
 (curable resin compns. containing carbosiloxane
 dendrimer-pendant vinyl polymers for sealing semiconductor
 devices)
 RN 282098-47-9 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-,
 3-[1,1-bis[[dimethyl[2-[3,3,3-trimethyl-1,1-
 bis[(trimethylsilyl)oxy]disiloxanyl]ethyl]silyl]oxy]-3,3-dimethyl-
 3-[2-[3,3,3-trimethyl-1,1-
 bis[(trimethylsilyl)oxy]disiloxanyl]ethyl]disiloxanyl]propyl
 ester, telomer with butyl 2-propenoate, oxiranylmethyl
 2-methyl-2-propenoate and 3-(trimethoxysilyl)-1-propanethiol (9CI)
 (CA INDEX NAME)

CM 1

CRN 4420-74-0

CMF C6 H16 O3 S Si


$$\text{CMF} \quad (\text{C}_{46} \text{H}_{122} \text{O}_{14} \text{Si}_{16} \cdot \text{C}_7 \text{H}_{12} \text{O}_2 \cdot \text{C}_7 \text{H}_{10} \text{O}_3)_x$$

CCI PMS

CM 3

CRN 219554-39-9

CMF C46 H122 O14 Si16



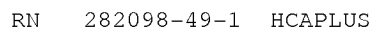
CRN 141-32-2

CMF C7 H12 O2



CRN 106-91-2

CMF C7 H10 O3



CN 2-Propenoic acid, 2-methyl-,
3-[1,1-bis[[dimethyl[2-[3,3,3-trimethyl-1,1-

bis[(trimethylsilyl)oxy]disiloxanyl]ethyl)silyl]oxy]-3,3-dimethyl-3-[2-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]ethyl]disiloxanyl]propyl ester, telomer with butyl 2-propenoate, methyl 2-methyl-2-propenoate, oxiranylmethyl 2-methyl-2-propenoate and 3-(trimethoxysilyl)-1-propanethiol (9CI) (CA INDEX NAME)

CRN 4420-74-0

$$\text{MeO}-\underset{\text{OMe}}{\overset{\text{OMe}}{\text{Si}}}-(\text{CH}_2)_3-\text{SH}$$

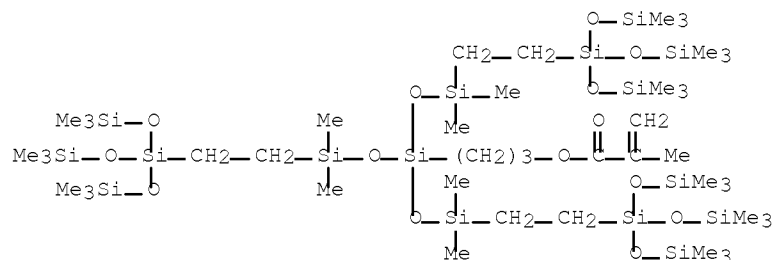
CRN 282098-48-0

$$\text{CMF} \quad (\text{C}_{46} \text{H}_{122} \text{O}_{14} \text{Si}_{16} \cdot \text{C}_7 \text{H}_{12} \text{O}_2 \cdot \text{C}_7 \text{H}_{10} \text{O}_3 \cdot \text{C}_5 \text{H}_8 \text{O}_2)_x$$

CCI PMS

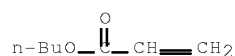
CRN 219554-39-9

CMF C46 H122 O14 Si16



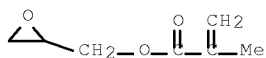
CRN 141-32-2

CMF C7 H12 O2



CRN 106-91-2

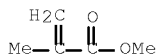
Page 40



CM 6

CRN 80-62-6

CMF C5 H8 O2



IC ICM C08L101-00
ICS C08L043-04; C08L057-06; C08L061-06; C08L063-00; C08L079-08;
C08L083-00

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 76

ST phenolic resin ~~curability~~ semiconductor device
packaging; carbosiloxane dendrimer pendant vinyl polymer
flexibility; thermal shock resistance dendrimer epoxy blend

IT Electronic packaging materials
(~~curable~~ resin compns. containing carbosiloxane
dendrimer-~~pendant~~ vinyl polymers for sealing semiconductor
devices)

IT Dendritic polymers
RL: IMF (Industrial manufacture); POF (Polymer in formulation);
PRP (Properties); TEM (Technical or engineered material use); PREP
(Preparation); USES (Uses)
(~~curable~~ resin compns. containing carbosiloxane
dendrimer-~~pendant~~ vinyl polymers for sealing semiconductor
devices)

IT Polymer blends
RL: PRP (Properties); TEM (Technical or engineered material use);
USES (Uses)
(~~curable~~ resin compns. containing carbosiloxane
dendrimer-~~pendant~~ vinyl polymers for sealing semiconductor
devices)

IT Phenolic resins, uses
Phenolic resins, uses
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical
or engineered material use); USES (Uses)
(epoxy; ~~curable~~ resin compns. containing carbosiloxane
dendrimer-~~pendant~~ vinyl polymers for sealing semiconductor
devices)

IT Phenolic resins, uses
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical
or engineered material use); USES (Uses)
(novolak, ~~crosslinked~~; ~~curable~~ resin
compns. containing carbosiloxane dendrimer-~~pendant~~ vinyl polymers
for sealing semiconductor devices)

IT Epoxy resins, uses
Epoxy resins, uses
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical
or engineered material use); USES (Uses)
(phenolic; ~~curable~~ resin compns. containing carbosiloxane
dendrimer-~~pendant~~ vinyl polymers for sealing semiconductor
devices)

IT Polyimides, uses

10/554,222-322849-EIC SEARCH

Polyimides, uses

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (polycyanurate-, bismaleimide-based; curable resin compns. containing carbosiloxane dendrimer-pendant vinyl polymers for sealing semiconductor devices)

IT Polycyanurates

Polycyanurates

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (polyimide-, bismaleimide-based; curable resin compns. containing carbosiloxane dendrimer-pendant vinyl polymers for sealing semiconductor devices)

IT Silsesquioxanes

Silsesquioxanes

RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
 (siloxane-, crosslinking agent; curable resin compns. containing carbosiloxane dendrimer-pendant vinyl polymers for sealing semiconductor devices)

IT Polysiloxanes, uses

Polysiloxanes, uses

RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
 (silsesquioxane-, crosslinking agent; curable resin compns. containing carbosiloxane dendrimer-pendant vinyl polymers for sealing semiconductor devices)

IT 100-97-0, Hexamethylenetetramine, uses 180742-77-2,
 Diphenylsilanediol-methylphenylsilanediol-methylsilanetriol-phenylsilanetriol copolymer

RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
 (crosslinking agent; curable resin compns. containing carbosiloxane dendrimer-pendant vinyl polymers for sealing semiconductor devices)

IT 282098-47-9P 282098-49-1P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (curable resin compns. containing carbosiloxane dendrimer-pendant vinyl polymers for sealing semiconductor devices)

L47 ANSWER 10 OF 23 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2000:401499 HCAPLUS Full-text

DOCUMENT NUMBER: 133:31709

TITLE: Processing room temperature vulcanizable
 silicone compositions

INVENTOR(S): Altes, Michael Gene; Jensen, Jary David;
 Lecomte, Jean-Paul H. J. A.; Spodarek, Robert;
 Walkowiak, Jeff Alan

PATENT ASSIGNEE(S): Dow Corning Corporation, USA

SOURCE: Eur. Pat. Appl., 14 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 1008613	A2	20000614	EP 1999-309736	1999 1203
EP 1008613	A3	20010328		

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10/554,222-322849-EIC SEARCH

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
MC, PT, IE, SI, LT, LV, FI, RO
KR 2000047929 A 20000725 KR 1999-55085

1999

1206

<--

JP 2000169713 A 20000620 JP 1999-351010

1999

1210

<--

PRIORITY APPLN. INFO.: US 1998-209192 A

1998

1210

<--

ED Entered STN: 16 Jun 2000

AB Room temperature vulcanizing (RTV) silicone compns. when exposed to moisture crosslink to form elastomers. The processing of RTV silicones comprises (i) feeding into an axial flow mixing turbine (A) 100 parts polydiorganosiloxanes, (B) 3-15 parts silane, (C) 45-250 parts filler, and (D) 0.01-5 parts catalyst; where the axial flow mixing turbine comprises a casing (1) having a proximal end and a distal end, a shaft positioned along the casing's longitudinal axis having a blade which rotates in a direction perpendicular to the longitudinal axis of the casing, starting material feed openings installed at the proximal end of the casing so that the starting materials flow toward the blade and a discharge opening positioned at the distal end of the casing so as to discharge mixed materials; (ii) mixing (A), (B), (C) and (D) by rotation of the blade at a rotational speed to produce a homogeneous mixture having entrained gasses and volatiles; (iii) introducing the mixture formed by (ii) into a vacuum-equipped degassing apparatus, and (iv) degassing and removing volatiles from the mixture. In an axial flow mixing turbine, OH-terminal polydiorganosiloxane, , 50/50 methyltriacetoxysilane/ethyltriacetoxysilane, fumed SiO₂, and Bu₂Sn diacetate were blended and the mixture cured 7 days at 20-25° and 50 ±5% relative humidity to give a material having 100% modulus 0.56 MPa, ultimate elongation 453%, and Shore A hardness 30.

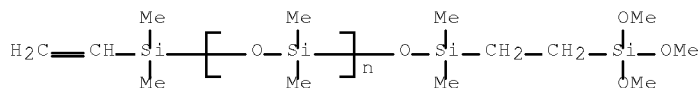
IT 197857-72-0 210548-76-8

RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(compounding room temperature vulcanizable silicone compns.)

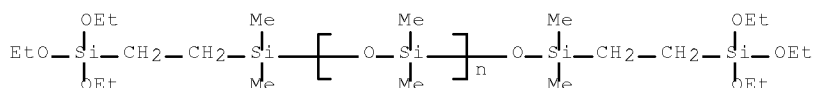
RN 197857-72-0 HCAPLUS

CN Poly[oxy(dimethylsilylene)],
α-[dimethyl[2-(trimethoxysilyl)ethyl]silyl]-ω-
[(ethenyldimethylsilyl)oxy]- (CA INDEX NAME)



RN 210548-76-8 HCAPLUS

CN Poly[oxy(dimethylsilylene)],
α-[dimethyl[2-(triethoxysilyl)ethyl]silyl]-ω-
[[dimethyl[2-(triethoxysilyl)ethyl]silyl]oxy]- (CA INDEX NAME)



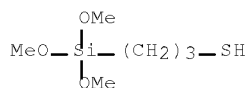
IT 4420-74-0, 3-Mercaptopropyltrimethoxysilane

10/554,222-322849-EIC SEARCH

RL: TEM (Technical or engineered material use); USES (Uses)
(compounding room temperature vulcanizable silicone compns.)

RN 4420-74-0 HCAPLUS

CN 1-Propanethiol, 3-(trimethoxysilyl)- (CA INDEX NAME)



IC ICM C08G077-38

ICS C08L083-04

CC 39-9 (Synthetic Elastomers and Natural Rubber)

IT Turbines

Turbines

(mixers; for processing room temperature vulcanizable silicone compns. adding ~~crosslinker~~ and catalyst in one step and with good filler dispersion)

IT Mixers (processing apparatus)

Mixers (processing apparatus)

(turbines; for processing room temperature vulcanizable silicone compns. adding ~~crosslinker~~ and catalyst in one step and with good filler dispersion)

IT 26403-63-4 31900-57-9D, Dimethylsilanediol homopolymer, triethoxysilylethylene-terminated 42557-10-8, Trimethylsilyl-terminated polydimethylsiloxane 197857-72-0 210548-76-8

RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(compounding room temperature vulcanizable silicone compns.)

IT 1185-55-3 1760-24-3 4253-34-3, Methyltriacetoxysilane 4420-74-0, 3-Mercaptopropyltrimethoxysilane 17689-77-9, Ethyltriacetoxysilane

RL: TEM (Technical or engineered material use); USES (Uses)

(compounding room temperature vulcanizable silicone compns.)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 11 OF 23 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1997:449606 HCAPLUS Full-text

DOCUMENT NUMBER: 127:66968

ORIGINAL REFERENCE NO.: 127:12793a,12796a

TITLE: Cutting-resistant ~~laminated~~ films with good releasability, rear transfer resistance, and good adhesion to silicone ~~layer~~

INVENTOR(S): Miura, Sadami

PATENT ASSIGNEE(S): Teijin Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: ~~Patent~~

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 09123372	A	19970513	JP 1995-278685	

10/554,222-322849-EIC SEARCH

1995

1026

<--

PRIORITY APPLN. INFO.:

JP 1995-278685

1995

1026

<--

ED Entered STN: 19 Jul 1997

AB The ~~laminated~~ films are obtained by ~~coating~~ on a polyester film an aqueous solution containing siloxane compds. and carboxylic group-bearing polymers, followed by drying and drawing. A 3% aqueous release ~~coating~~ solution contained trimethylsilyl-terminated Me alkyl siloxane [alkyl = Me, glycidyloxyallyl, CH₂CH₂CH₂CO₂H, CH₂CH₂CH₂Si(OMe)₃] 71, Terephthalic acid-isophthalic acid-5-potassium sulfoisophthalic acid-trimellitic acid-ethylene glycol-diethylene glycol-neopentyl glycol copolymer 18, ethylene oxide-propylene oxide block 11 parts copolymer.

IT 191538-70-2D, trimethylsilyl-terminated

RL: PRP (Properties); TEM (Technical or engineered material use);

USES (Uses)

(cutting-resistant ~~laminated~~ films with good releasability, rear transfer resistance, and good adhesion to silicone layer)

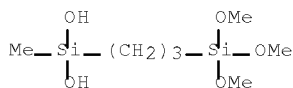
RN 191538-70-2 HCAPLUS

CN Butanoic acid, 4-(dihydroxymethylsilyl)-, polymer with dimethylsilanediol, methyl[3-(oxiranylmethoxy)propyl]silanediol and methyl[3-(trimethoxysilyl)propyl]silanediol (9CI) (CA INDEX NAME)

CM 1

CRN 189232-88-0

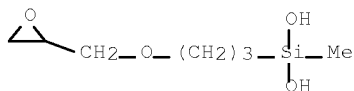
CMF C7 H20 O5 Si2



CM 2

CRN 133316-68-4

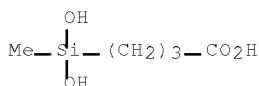
CMF C7 H16 O4 Si



CM 3

CRN 75169-35-6

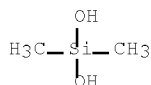
CMF C5 H12 O4 Si



CM 4

CRN 1066-42-8

CMF C2 H8 O2 Si



IC ICM B32B027-36
ICS B32B007-06; B32B009-00; B32B023-00; B32B027-00; B32B027-08;
B32B027-30; B32B027-40; C08J007-04

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 42

ST cutting resistant laminated film
releasability; siloxane polyester release coating
laminated; ethylene oxide block copolymer release
coating

IT Release coatings
(cutting-resistant laminated films with
good releasability, rear transfer resistance, and good adhesion
to silicone layer)

IT Laminated plastics, uses
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(cutting-resistant laminated films with
good releasability, rear transfer resistance, and good adhesion
to silicone layer)

IT Polyesters, uses
RL: PRP (Properties); TEM (Technical or engineered material use);
USES (Uses)
(cutting-resistant laminated films with
good releasability, rear transfer resistance, and good adhesion
to silicone layer)

IT Parting materials
(siloxane-based; cutting-resistant laminated
films with good releasability, rear transfer
resistance, and good adhesion to silicone layer)

IT 7631-86-9, Silica, uses
RL: MOA (Modifier or additive use); USES (Uses)
(colloidal; cutting-resistant laminated films
with good releasability, rear transfer resistance, and good
adhesion to silicone layer)

IT 2530-83-8 25038-59-9, PET polyester, uses 189232-82-4
191538-68-8 191538-69-9 191538-70-3D,
trimethylsilyl-terminated
RL: PRP (Properties); TEM (Technical or engineered material use);
USES (Uses)
(cutting-resistant laminated films with
good releasability, rear transfer resistance, and good adhesion
to silicone layer)

IT 191538-67-7
RL: PRP (Properties); TEM (Technical or engineered material use);
USES (Uses)
(release coating; cutting-resistant laminated

10/554,222-322849-EIC SEARCH

films with good releasability, rear transfer
resistance, and good adhesion to silicone layer)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE
THIS RECORD (1 CITINGS)

L47 ANSWER 12 OF 23 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1997:273658 HCAPLUS Full-text

DOCUMENT NUMBER: 126:251962

ORIGINAL REFERENCE NO.: 126:48709a,48712a

TITLE: Epoxy resin compositions and sealed
semiconductor devices with good moisture and
solder-heat resistances and moldability

INVENTOR(S): Sato, Tatsuo

PATENT ASSIGNEE(S): Toshiba Chem Prod, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: ~~Patent~~

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

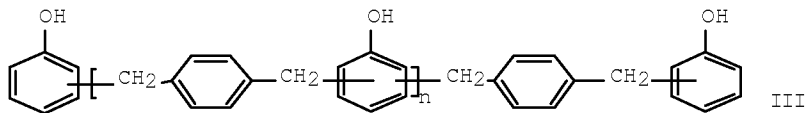
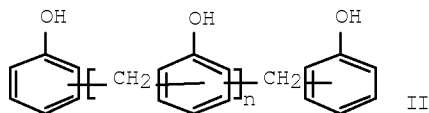
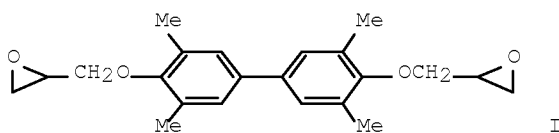
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 09040749	A	19970210	JP 1995-209257	1995 0725

PRIORITY APPLN. INFO.: <--
JP 1995-209257
1995
0725

ED Entered STN: 28 Apr 1997

GI



AB Title compns. comprise (A) biphenyl-type epoxy resin I, (B) phenolic resins, (C) silane coupling agents of $\text{Me}_3\text{SiO}(\text{SiMe}_2\text{O})_l(\text{SiMeXO})_m(\text{SiMeYO})_n(\text{SiMeZO})_o\text{SiMe}_3$ [X = alkoxysilyl-containing group; Y = epoxy-, CO_2H -, or carbinol-containing reactive organic functional group; Z = polyether, $\text{C}_{\geq 2}$ alkyl, aralkyl group (units for enhancing compatibility with organic compds.); m, p ≥ 0 ; n, o = ≥ 1], (D) 25-90% (based on total composition) fused SiO_2 powder (maximum particle size $\leq 100 \mu\text{m}$), and (E) curing accelerators. Sealed

10/554,222-322849-EIC SEARCH

semiconductor devices are obtained by sealing semiconductor chips with the above compns. Thus, a semiconductor chip was treated with a composition containing I 6.2, tetrabromobisphenol A-based epoxy resin 1.5, phenolic resin II ($n \geq 0$) 1.5, phenolic resin III ($n \geq 1$) 3.5, Ph3P 0.2, carnauba wax 0.4, carbon black 0.3, and Sb2O3 2.0% and cured to give a sealed semiconductor device showing good moisture and solder-heat resistances.

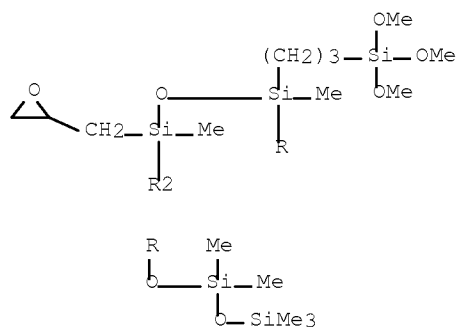
IT 183059-20-3 188652-12-2

RL: MOA (Modifier or additive use); USES (Uses)
(coupling agent; epoxy resin compns. and sealed semiconductor devices with good moisture and solder-heat resistances and moldability)

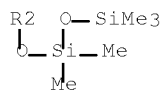
RN 183059-20-3 HCAPLUS

CN Hexasiloxane, 1,1,1,3,3,5,7,9,9,11,11,11-dodecamethyl-5-(oxiranylmethyl)-7-[3-(trimethoxysilyl)propyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



RN 188652-12-2 HCAPLUS

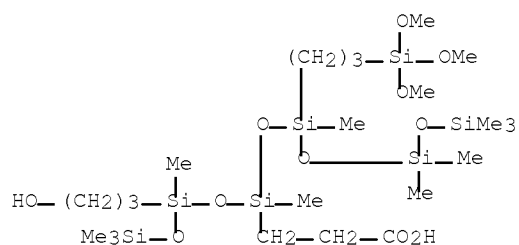
CN Oxirane, methyl-, polymer with oxirane,
3-[3-(2-carboxyethyl)-1,3,5,7,7,9,9,9-octamethyl-5-[3-(trimethoxysilyl)propyl]-1-
[(trimethylsilyl)oxy]pentasiloxanyl]propyl methyl ether (9CI) (CA INDEX NAME)

CM 1

CRN 183059-21-4

CMF C23 H60 O11 Si7

10/554,222-322849-EIC SEARCH



CM 2

CRN 67-56-1

CMF C H4 O

H3C—OH

CM 3

CRN 9003-11-6

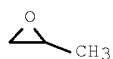
CMF (C3 H6 O . C2 H4 O)x

CCI PMS

CM 4

CRN 75-56-9

CMF C3 H6 O



CM 5

CRN 75-21-8

CMF C2 H4 O



IC ICM C08G059-24

ICS C08G059-62; C08L063-00; H01L023-29; H01L023-31

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 76

IT 183059-20-3 188652-12-2

RL: MOA (Modifier or additive use); USES (Uses)

(coupling agent; epoxy resin compns. and sealed semiconductor devices with good moisture and solder-heat resistances and moldability)

10/554,222-322849-EIC SEARCH

L47 ANSWER 13 OF 23 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1997:223968 HCAPLUS Full-text
 DOCUMENT NUMBER: 126:212250
 ORIGINAL REFERENCE NO.: 126:41054h,41055a
 TITLE: Preparation of silicones having leaving groups
 as ~~coating~~ materials
 INVENTOR(S): Takahashi, Eiji; Iyanagi, Koichi
 PATENT ASSIGNEE(S): Pola Kasei Kogyo Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: ~~Patent~~
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 09040680	A	19970210	JP 1995-210099	1995 0726

PRIORITY APPLN. INFO.: <--
 JP 1995-210099
 1995
 0726
 <--

OTHER SOURCE(S): MARPAT 126:212250

ED Entered STN: 07 Apr 1997

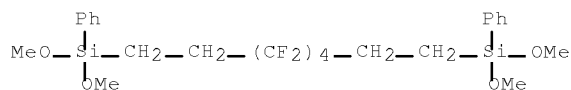
AB Fluorine-containing silicones R3R2R1Si-Q-SiR4R5R6 (I; Q = bivalent hydrocarbon group optionally having C or H atoms substituted by other groups; R1 - R6 = hydrocarbon or leaving group optionally containing F atoms; provided that at least one of R1, R2, and R3 and at least one of R3, R4, and R5 are leaving groups and the mol. contains at least one F atom) are prepared A composition containing 1 or ≥2 silicones I for ~~coating~~ or polymer ~~crosslinking~~ is claimed. A method for ~~crosslinking~~ a polymer by reacting 1 or ≥2 silicones I with a polymer is claimed. These silicones form a flexible and strong ~~coating~~ composition with other monomers and are used for surface-modification of metals, glass, woods, powder, polymers (e.g. polyvinyl alc., cellulose, or polyacrylic acid), plastics, and fibers. Thus, 150 g tetramethoxysilane and 7 g Mg were refluxed in 300 mL THF, and 50 g 1,8-diiodo-3,3,4,4,5,5,6,6-octafluorooctane was slowly added dropwise, and the resulting mixture was refluxed for 24 h to give 37 g methoxysilane derivative (MeO)3SiCH2CH2(CF2)4CH2CH2Si(OMe)3 (II). A 10% solution of II in THF was sprayed on a glass surface and heated at 130° under vacuum for 24 h to give a surface-treated glass which showed excellent water and oil repellency.

IT 188037-25-4F

RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (preparation of silicone having leaving groups as ~~coating~~ materials and ~~crosslinking~~ agents)

RN 188037-25-4 HCAPLUS

CN 2,13-Dioxa-3,12-disilatetradecane,
 6,6,7,7,8,8,9,9-octafluoro-3,12-dimethoxy-3,12-diphenyl- (CA
 INDEX NAME)



IT 188037-26-5F 188037-28-7F
 188037-29-8F

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); TEM

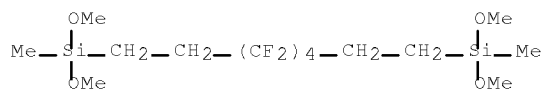
10/554,222-322849-EIC SEARCH

(Technical or engineered material use); PREP (Preparation); USES
(Uses)

(preparation of silicone having leaving groups as coating
materials and crosslinking agents)

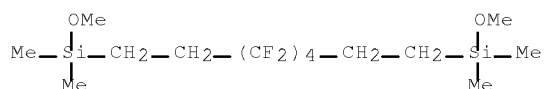
RN 188037-26-5 HCAPLUS

CN 2,13-Dioxa-3,12-disilatetradecane,
6,6,7,7,8,8,9,9-octafluoro-3,12-dimethoxy-3,12-dimethyl- (CA
INDEX NAME)



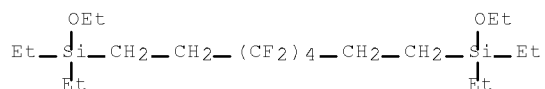
RN 188037-28-7 HCAPLUS

CN 2,13-Dioxa-3,12-disilatetradecane,
6,6,7,7,8,8,9,9-octafluoro-3,3,12,12-tetramethyl- (CA INDEX NAME)



RN 188037-29-8 HCAPLUS

CN 3,14-Dioxa-4,13-disilahexadecane,
4,4,13,13-tetraethyl-7,7,8,8,9,9,10,10-octafluoro- (CA INDEX
NAME)



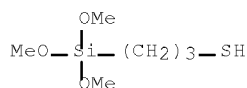
IT 4420-74-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of silicone having leaving groups as coating
materials and crosslinking agents)

RN 4420-74-0 HCAPLUS

CN 1-Propanethiol, 3-(trimethoxysilyl)- (CA INDEX NAME)



IC ICM C07F007-18

ICS C07F007-18

CC 29-6 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 37, 42

ST silicone contg leaving group prepn; coating material
methoxysilane; crosslinking agent silicone

IT Polysiloxanes, preparation
Polysiloxanes, preparation

10/554,222-322849-EIC SEARCH

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(fluorine-containing; preparation of silicone having leaving groups as coating materials and crosslinking agents)

IT Fluoropolymers, preparation

Fluoropolymers, preparation

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polysiloxane-; preparation of silicone having leaving groups as coating materials and crosslinking agents)

IT Coating materials

Crosslinking agents

Oilproofing agents

Water-resistant materials

(preparation of silicone having leaving groups as coating materials and crosslinking agents)

IT Silanes

Siloxanes (nonpolymeric)

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(preparation of silicone having leaving groups as coating materials and crosslinking agents)

IT 188037-24-3P 188037-25-4P

RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(preparation of silicone having leaving groups as coating materials and crosslinking agents)

IT 188037-26-5P 188037-28-7P

188037-29-8P 188037-30-1P 188037-31-2P 188037-32-3P

188037-33-4P 188037-34-5P 188037-35-6P 188037-36-7P

188037-37-8P 188037-38-9P 188037-39-0P 188037-40-3P

188037-41-4P

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(preparation of silicone having leaving groups as coating materials and crosslinking agents)

IT 100-58-3 106-37-6, 1,4-Dibromobenzene 107-11-9,
2-Propen-1-amine 335-48-8, 1,4-Dibromooctafluorobutane
355-74-8, 1,6-Dihydroxy-2,2,3,3,4,4,5,5-octafluorohexane
356-15-0, Tetrafluorosuccinoyl chloride 423-39-2, Perfluorobutyl
iodide 460-37-7, 1-Iodo-3,3,3-trifluoropropane 681-84-5,
Tetramethoxysilane 754-96-1 812-58-8,
1,8-Dibromoperfluorooctane 919-30-2,
3-Aminopropyltriethoxysilane 925-90-6, Ethylmagnesium bromide
1112-39-6 1185-55-3 2681-00-7,
1,8-Diiodo-3,3,4,4,5,5,6,6-octafluorooctane 2996-92-1,
Phenyltrimethoxysilane 4420-74-0 5021-93-2,
Diethoxydiethylsilane 7657-09-2,
1,4-Dibromo-2-trifluoromethylbenzene 24801-88-5,
3-(Triethoxysilyl)propyl isocyanate 153487-60-6,
1-(Trimethoxysilyl)-3-[2-(trimethoxysilyl)ethylthio]propane

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of silicone having leaving groups as coating materials and crosslinking agents)

IT 135778-06-2P, 1,4-Bis(dimethoxymethylsilyl)benzene 188037-42-5P,

1-(Dimethoxyethylsilyl)-3-[2-

(dimethoxyethylsilyl)ethylthio]propane 188037-43-6P,

1-(Dimethoxyphenylsilyl)-3-[2-

(dimethoxyphenylsilyl)ethylthio]propane 188037-44-7P,

Perfluorobutylmagnesium iodide

RL: RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent)

10/554,222-322849-EIC SEARCH

(preparation of silicone having leaving groups as coating materials and crosslinking agents)

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)

L47 ANSWER 14 OF 23 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1996:675605 HCAPLUS Full-text

DOCUMENT NUMBER: 125:302858

ORIGINAL REFERENCE NO.: 125:56663a,56666a

TITLE: Epoxy resin compositions with good moisture resistance, solder-heat resistance, and moldability and sealed semiconductor devices

INVENTOR(S): Sato, Tatsuo

PATENT ASSIGNEE(S): Toshiba Chem Prod, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: ~~Patent~~

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

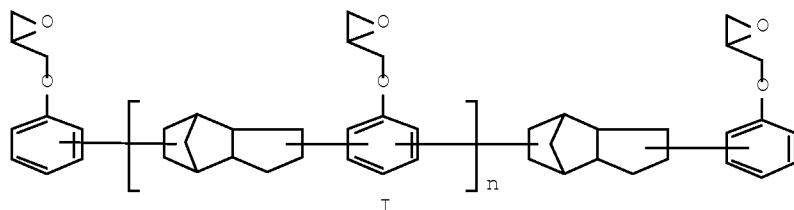
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 08217850	A	19960827	JP 1995-51698	1995 0216

PRIORITY APPLN. INFO.: <-- JP 1995-51698

1995
0216

ED Entered STN: 15 Nov 1996

GI



AB Semiconductor chips are sealed with epoxy resin compns. containing dicyclopentadiene-based epoxy resins I (n = 0, 1), phenolic resins, coupling agents Me₃SiO[Me₂SiO]_l[MeXSiO]_m[MeYSiO]_n[MeZSiO]_oSiMe₃ (II; X = alkoxysilyl-terminated alkyl; Y = epoxy, CO₂H, or OH-terminated alkyl; Z = polyether unit, alkyl, aralkyl; l, m, n, p ≥ 1), 25-90% molten SiO₂ powders with maximum particle size ≤100 μm, and curing accelerators. Thus, a blend of I 6.2, tetrabromobisphenol A-based epoxy resin 1.5, OHC₆H₄[CH₂C₆H₃OH]_nCH₂C₆H₄OH 1.5, OHC₆H₄[CH₂C₆H₄CH₂C₆H₃OH]_nCH₂C₆H₄CH₂C₆H₄OH 3.5, PPh₃ 0.2, carnauba waxes 0.4, carbon black 0.3, Sb₂O₃ 2.0% was mixed with 84% molten SiO₂ powder (maximum particle size 100 μm) treated with 0.4% II [X = (CH₂)₃Si(OMe)₃, Y = glycidyl, Z = Me] to give a molding material showing spiral flow 80 cm, flow viscosity 220 P, bending strength 17.5 kg/mm², thermal expansion coefficient 0.9 + 10⁻⁵/°, water absorption 1600 ppm, and good solder heat resistance.

IT 183059-20-3 183184-16-9

RL: MOA (Modifier or additive use); USES (Uses)

(coupling agents; epoxy resin compns. with good moisture

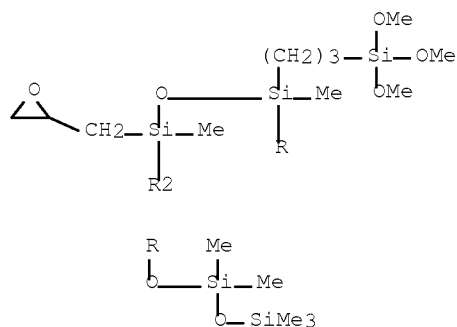
10/554,222-322849-EIC SEARCH

resistance, solder-heat resistance, and moldability for sealing semiconductor devices)

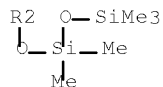
RN 183059-20-3 HCAPLUS

CN Hexasiloxane, 1,1,1,3,3,5,7,9,9,11,11,11-dodecamethyl-5-(oxiranylmethyl)-7-[3-(trimethoxysilyl)propyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



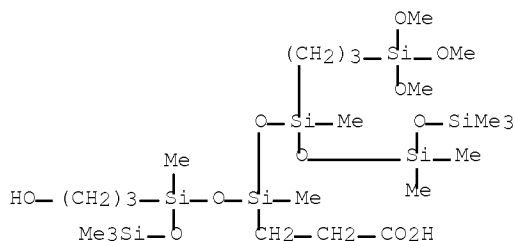
RN 183184-16-9 HCAPLUS

CN Oxirane, methyl-, polymer with oxirane, mono[3-[3-(2-carboxyethyl)-1,3,5,7,7,9,9,9-octamethyl-5-[3-(trimethoxysilyl)propyl]-1-[(trimethylsilyl)oxy]pentasiloxanyl]propyl] ether (9CI) (CA INDEX NAME)

CM 1

CRN 183059-21-4

CMF C23 H60 O11 Si7



CM 2

CRN 9003-11-6

CMF (C3 H6 O . C2 H4 O)x

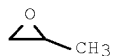
10/554,222-322849-EIC SEARCH

CCI PMS

CM 3

CRN 75-56-9

CMF C3 H6 O



CM 4

CRN 75-21-8

CMF C2 H4 O



IC ICM C08G059-20
 ICS C08G059-62; C08L063-00; H01L023-29; H01L023-31
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 76
 IT 183059-20-3 183184-16-9
 RL: MOA (Modifier or additive use); USES (Uses)
 (coupling agents; epoxy resin compns. with good moisture
 resistance, solder-heat resistance, and moldability for sealing
 semiconductor devices)

L47 ANSWER 15 OF 23 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1996:142171 HCAPLUS Full-text
 DOCUMENT NUMBER: 124:178364
 ORIGINAL REFERENCE NO.: 124:33065a,33068a
 TITLE: Silicone pressure-sensitive adhesive
 compositions
 INVENTOR(S): Cifuentes, Martin Eric; Strong, Michael
 Raymond; Vanwert, Bernard
 PATENT ASSIGNEE(S): Dow Corning Corp., USA
 SOURCE: Eur. Pat. Appl., 12 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: ~~Patent~~
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
EP 688846	A2	19951227	EP 1995-304112	1995 0614
			<--	
EP 688846	A3	19961030		
EP 688846	B1	20021023		
R: DE, FR, GB, NL				
US 5561203	A	19961001	US 1995-479202	1995 0413
			<--	

10/554,222-322849-EIC SEARCH

CA 2152131 A1 19951221 CA 1995-2152131 1995
0619

JP 08048963 A 19960220 JP 1995-153347 <--
1995
0620

PRIORITY APPLN. INFO.: US 1994-262792 A <--
1994
0620

ED Entered STN: 12 Mar 1996

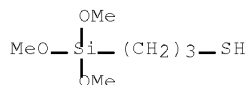
AB The comps., which combine high ultimate strength in a cured network with a lower modulus and improved adhesive strength at elevated temps., comprise (A) a soluble, capped, organopolysiloxane resin containing <1.2% silicon-bonded hydroxy groups; (B) a diorganopolysiloxane polymer having viscosity 20-100,000 mm²/s at 25°, each terminal group containing ≥2 silicon-bonded hydrolyzable radicals; and (C) a hydrolyzable silane.

IT 4420-74-0

RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(siloxane pressure-sensitive adhesives with improved adhesive strength)

RN 4420-74-0 HCAPLUS

CN 1-Propanethiol, 3-(trimethoxysilyl)- (CA INDEX NAME)

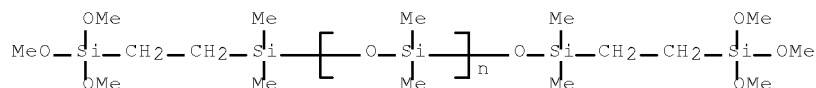


IT 160480-15-9 174142-15-5

RL: TEM (Technical or engineered material use); USES (Uses)
(siloxane pressure-sensitive adhesives with improved adhesive strength)

RN 160480-15-9 HCAPLUS

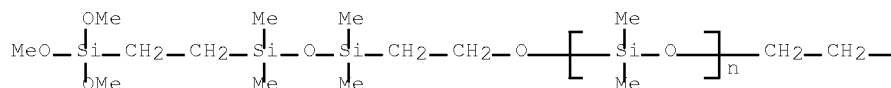
CN Poly[oxy(dimethylsilylene)],
α-[dimethyl[2-(trimethoxysilyl)ethyl]silyl]-ω-
[[dimethyl[2-(trimethoxysilyl)ethyl]silyl]oxy]- (CA INDEX NAME)

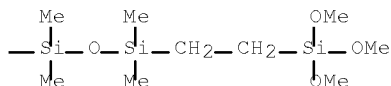


RN 174142-15-5 HCAPLUS

CN Poly[oxy(dimethylsilylene)],
α-[2-[1,1,3,3-tetramethyl-3-[2-(trimethoxysilyl)ethyl]disiloxanyl]ethyl]-ω-[2-[1,1,3,3-tetramethyl-3-[2-(trimethoxysilyl)ethyl]disiloxanyl]ethoxy]- (9CI)
(CA INDEX NAME)

PAGE 1-A





IC ICM C09J183-04
 CC 38-3 (Plastics Fabrication and Uses)
 IT 78-10-4, Tetraethoxysilane 681-84-5 919-30-2,
 3-Aminopropyltriethoxysilane 1067-25-0, Propyltrimethoxysilane
 1185-55-3, Methyltrimethoxysilane 1760-24-3 2031-67-6
 2530-83-8 2530-85-0 2996-92-1 ~~4420-74-0~~
 5314-55-6, Ethyltrimethoxysilane 18395-30-7,
 Isobutyltrimethoxysilane 22984-54-9
 RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant
 or reagent); USES (Uses)
 (siloxane pressure-sensitive adhesives with improved adhesive
 strength)
 IT 9016-00-6D, Polydimethylsiloxane, trimethoxysilyl-terminated
 31900-57-9D, Polydimethylsiloxane, trimethoxysilyl-terminated
~~160480-15-9~~ 174142-15-5
 RL: TEM (Technical or engineered material use); USES (Uses)
 (siloxane pressure-sensitive adhesives with improved adhesive
 strength)
 OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE
 THIS RECORD (5 CITINGS)

L47 ANSWER 16 OF 23 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1995:888059 HCAPLUS Full-text
 DOCUMENT NUMBER: 123:296245
 ORIGINAL REFERENCE NO.: 123:52893a,52896a
 TITLE: Cosmetics containing reactive
 organopolysiloxane-coated inorganic
 powders
 INVENTOR(S): Noda, Isao; Shoji, Hiroaki
 PATENT ASSIGNEE(S): Nippon Unicar Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: ~~Patent~~
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 07206637	A	19950808	JP 1994-16999	1994 0117

PRIORITY APPLN. INFO.: <--
 JP 1994-16999
 1994
 0117
 <--

ED Entered STN: 01 Nov 1995
 AB Cosmetics contain inorg. powders, which are surface-coated with reactive
 organopolysiloxanes to impart skin compatibility, water-resistance, skin softness, and
 product stability and durability. Thus, an oil/water-type cream contained
 organopolysiloxane-coated inorg. powders 10, kaolin 12, titania 5, red iron oxide 1.5,

10/554,222-322849-EIC SEARCH

yellow iron oxide 2.0, black iron oxide 0.5, liquid paraffin 15, iso-Pr myristate 10, lanolin alc. 3, ozokerite 8, preservatives, perfumes, and talc to 100 weight%.

IT 169554-00-1D, trimethylsilyl terminated
169554-02-3D, trimethylsilyl terminated
169554-04-5

RL: BUU (Biological use, unclassified); BIOL (Biological study);
USES (Uses)
(cosmetics containing reactive organopolysiloxane-coated
inorg. powders)

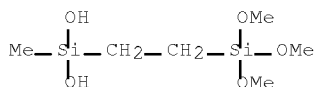
RN 169554-00-1 HCAPLUS

CN Silanediol, dimethyl-, polymer with
(3-hydroxypropyl)methylsilanediol, methyloxirane,
methylsilanediol, methyl[2-(trimethoxysilyl)ethyl]silanediol and
oxirane, block, graft (9CI) (CA INDEX NAME)

CM 1

CRN 161174-84-1

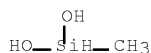
CMF C6 H18 O5 Si2



CM 2

CRN 43641-90-3

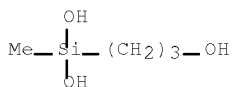
CMF C H6 O2 Si



CM 3

CRN 18165-96-3

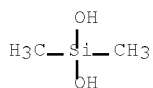
CMF C4 H12 O3 Si



CM 4

CRN 1066-42-8

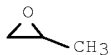
CMF C2 H8 O2 Si



CM 5

CRN 75-56-9

CMF C3 H6 O



CM 6

CRN 75-21-8

CMF C2 H4 O



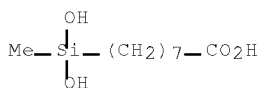
RN 169554-02-3 HCAPLUS

CN Octanoic acid, 8-(dihydroxymethylsilyl)-, polymer with dimethylsilanediol, methyloxirane, methylsilanediol and methyl[2-(trimethoxysilyl)ethyl]silanediol, block, graft (9CI)
(CA INDEX NAME)

CM 1

CRN 169554-01-2

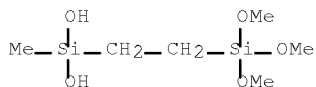
CMF C9 H20 O4 Si



CM 2

CRN 161174-84-1

CMF C6 H18 O5 Si2

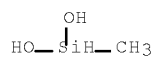


10/554,222-322849-EIC SEARCH

CM 3

CRN 43641-90-3

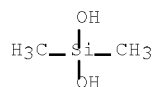
CMF C H6 O2 Si



CM 4

CRN 1066-42-8

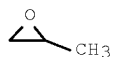
CMF C2 H8 O2 Si



CM 5

CRN 75-56-9

CMF C3 H6 O



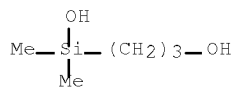
RN 169554-04-5 HCAPLUS

CN Silanediol, dimethyl-, polymer with
(3-hydroxypropyl)dimethylsilanol, methyloxirane,
methyl[3-(oxiranylmethoxy)propyl]silanediol,
methyl[2-(trimethoxysilyl)ethyl]silanediol and oxirane (9CI) (CA
INDEX NAME)

CM 1

CRN 169554-03-4

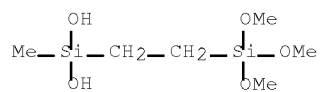
CMF C5 H14 O2 Si



CM 2

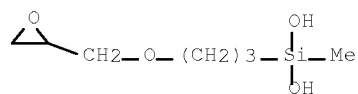
CRN 161174-84-1

CMF C6 H18 O5 Si2



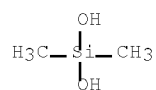
CM 3

CRN 133316-68-4
CMF C7 H16 O4 Si



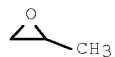
CM 4

CRN 1066-42-8
CMF C2 H8 O2 Si



CM 5

CRN 75-56-9
CMF C3 H6 O



CM 6

CRN 75-21-8
CMF C2 H4 O



IT 169553-99-50, trimethylsilyl terminated
RL: BUU (Biological use, unclassified); BIOL (Biological study);

10/554,222-322849-EIC SEARCH

USES (Uses)

(reactive, inorg. powders coating with; cosmetics
containing reactive organopolysiloxane-coated inorg.
powders)

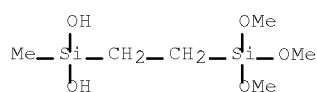
RN 169553-99-5 HCAPLUS

CN Silanediol, dimethyl-, polymer with methyloxirane,
methyl[3-(oxiranylmethoxy)propyl]silanediol, methylsilanediol,
methyl[2-(trimethoxysilyl)ethyl]silanediol and oxirane, block,
graft (9CI) (CA INDEX NAME)

CM 1

CRN 161174-84-1

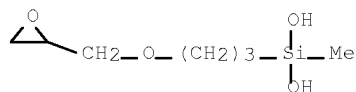
CMF C6 H18 O5 Si2



CM 2

CRN 133316-68-4

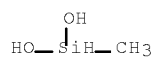
CMF C7 H16 O4 Si



CM 3

CRN 43641-90-3

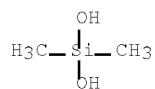
CMF C H6 O2 Si



CM 4

CRN 1066-42-8

CMF C2 H8 O2 Si

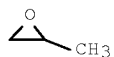


10/554,222-322849-EIC SEARCH

CM 5

CRN 75-56-9

CMF C3 H6 O



CM 6

CRN 75-21-8

CMF C2 H4 O



IC ICM A61K007-02
ICS C09C003-12
CC 62-4 (Essential Oils and Cosmetics)
ST cosmetic reactive organopolysiloxane surface coating powder
IT Cosmetics
Hair preparations
(cosmetics containing reactive organopolysiloxane-coated inorg. powders)
IT Siloxanes and Silicones, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study);
USES (Uses)
(reactive, inorg. powders coating with; cosmetics containing reactive organopolysiloxane-coated inorg. powders)
IT Cosmetics
(creams, cosmetics containing reactive organopolysiloxane-coated inorg. powders)
IT Cosmetics
(powders, reactive organopolysiloxane-coated; cosmetics containing reactive organopolysiloxane-coated inorg. powders)
IT 169554-00-1D, trimethylsilyl terminated
169554-02-3D, trimethylsilyl terminated
169554-04-5
RL: BUU (Biological use, unclassified); BIOL (Biological study);
USES (Uses)
(cosmetics containing reactive organopolysiloxane-coated inorg. powders)
IT 169553-99-5D, trimethylsilyl terminated
RL: BUU (Biological use, unclassified); BIOL (Biological study);
USES (Uses)
(reactive, inorg. powders coating with; cosmetics containing reactive organopolysiloxane-coated inorg. powders)

L47 ANSWER 17 OF 23 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 1995:858537 HCAPLUS Full-text
DOCUMENT NUMBER: 123:257935
ORIGINAL REFERENCE NO.: 123:46141a,46144a
TITLE: Thermoplastic graft siloxanes with good

10/554,222-322849-EIC SEARCH

slidability???, abrasion resistance,
 weatherability, impact strength, fatigue
 resistance and chemical resistance

INVENTOR(S): Higaki, Keigo; Sakurai, Kouichi; Kawahashi,
 Nobuo; Kamoshida, Yoichi; Matsumoto, Makoto;
 Shinohara, Kazuto; Kanuma, Kouji

PATENT ASSIGNEE(S): Japan Synthetic Rubber Co., Ltd., Japan;
 Toshiba Silicone Co., Ltd.

SOURCE: Eur. Pat. Appl., 15 pp.
 CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 653447	A1	19950517	EP 1994-117532	1994 1107
EP 653447	B1	20010606	<--	
R: DE, GB, NL				
JP 07138331	A	19950530	JP 1993-307064	1993 1115
JP 3357438	B2	20021216	<--	
US 5457167	A	19951010	US 1994-340391	1994 1115
PRIORITY APPLN. INFO.:			JP 1993-307064	A 1993 1115
			<--	

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 17 Oct 1995

AB The thermoplastic resin comprises a graft copolymer obtained by graft-polymerizing ≥ 1 vinyl monomer onto a modified siloxane obtained by polymerizing 80 to 99.8% of an organosiloxane (I) $R_1nSiO(4-n)/2$ (R_1 is an optionally substituted hydrocarbon group), 0.1 to 10% of ≥ 1 graft crosslinking agent (II) containing an alkoxysilyl group, selected from the group consisting of a vinyl-type graft crosslinking agent, a mercapto-type graft crosslinking agent, an acryloyl-type crosslinking agent and a vinylphenyl-type crosslinking agent, and 0.1 to 10% of a compound (III) having two alkoxysilyl groups, provided that I + II + III = 100%. Octamethylcyclotetrasiloxane was copolymerized with 2-(p-vinylphenyl)ethylmethyldimethoxysilane and 1-[1-(dimethoxy)(methyl)silylethyl]-4-[2-(dimethoxy)(methyl)silylethyl]benzene, then grafted with styrene and acrylonitrile to give a graft siloxane.

IT 169033-20-9F 169033-21-0F

RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(thermoplastic graft siloxanes with good slidability, abrasion resistance, weatherability, impact strength, fatigue resistance and chemical resistance)

RN 169033-20-9 HCAPLUS

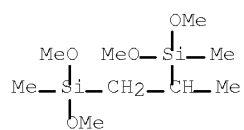
CN Cyclotetrasiloxane, octamethyl-, polymer with 3,7-dimethoxy-3,7-dimethyl-2,8-dioxa-3,7-disilanonane, 3,6-dimethoxy-3,4,6-trimethyl-2,7-dioxa-3,6-disilaoctane, ethenylbenzene and ethenyldimethoxymethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 169033-19-6

10/554,222-322849-EIC SEARCH

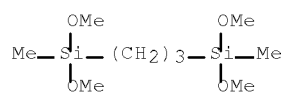
CMF C9 H24 O4 Si2



CM 2

CRN 168471-61-2

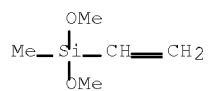
CMF C9 H24 O4 Si2



CM 3

CRN 16753-62-1

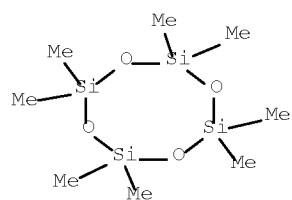
CMF C5 H12 O2 Si



CM 4

CRN 556-67-2

CMF C8 H24 O4 Si4

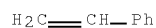


CM 5

CRN 100-42-5

CMF C8 H8

10/554,222-322849-EIC SEARCH

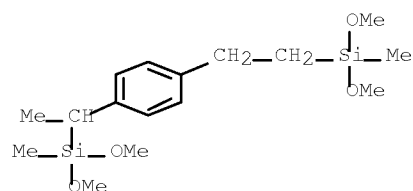


RN 169033-21-0 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with
 [1-[4-[2-(dimethoxymethylsilyl)ethyl]phenyl]ethyl]dimethoxymethyls
 ilane, 3-(dimethoxymethylsilyl)-1-propanethiol,
 octamethylcyclotetrasiloxane and
 (1,4-phenylenedi-2,1-ethanediyl)bis[dimethoxymethylsilane] (9CI)
 (CA INDEX NAME)

CM 1

CRN 169033-17-4

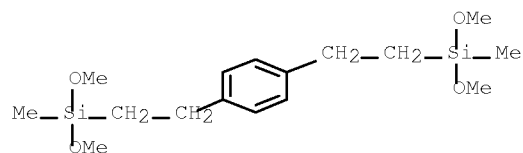
CMF C16 H30 O4 Si2



CM 2

CRN 169033-16-3

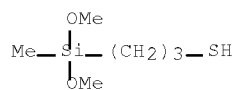
CMF C16 H30 O4 Si2



CM 3

CRN 31001-77-1

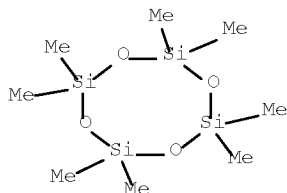
CMF C6 H16 O2 S Si



CM 4

10/554,222-322849-EIC SEARCH

CRN 556-67-2
CMF C8 H24 O4 Si4



CM 5

CRN 80-62-6
CMF C5 H8 O2



IC ICM C08F283-12
ICS C08G077-50; C08G077-52
CC 35-8 (Chemistry of Synthetic High Polymers)
IT 169033-18-5P ~~169033-20-SP~~ ~~169033-21-OP~~
169033-22-1P 169033-23-2P 169033-24-3P
RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(thermoplastic graft siloxanes with good slidability, abrasion resistance, weatherability, impact strength, fatigue resistance and chemical resistance)
OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (6 CITINGS)

L47 ANSWER 18 OF 23 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1988:57147 HCAPLUS Full-text
DOCUMENT NUMBER: 108:57147
ORIGINAL REFERENCE NO.: 108:9553a,9556a
TITLE: Coupling agent compositions
INVENTOR(S): Plueddemann, Edwin P.
PATENT ASSIGNEE(S): Dow Corning Corp., USA
SOURCE: U.S., 10 pp.
CODEN: USXXAM
DOCUMENT TYPE: ~~Patent~~
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 4689085	A	19870825	US 1986-880528	1986 0630
CA 1288544	C	19910903	CA 1987-536334	1987

10/554,222-322849-EIC SEARCH

0504

EP 255227 A2 19880203 EP 1987-305622

1987

0624

EP 255227 A3 19890712
 R: DE, FR, GB
 JP 01006036 A 19890110 JP 1987-161409

1987

0630

US 34675 E 19940726 US 1992-876990

1992

0501

PRIORITY APPLN. INFO.: US 1986-880528 A

1986

0630

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
 ED Entered STN: 20 Feb 1988

AB The effectiveness of organic silane coupling agents in plastic composites and coatings is improved by using the silanes Z[Si(OR)3]2 (R = C1-8 alkyl, Z = divalent organic radical) as crosslinking agents for the couplers. Thus, a mixture of quartz 50, polyester (Resyn 5500) 50, Bz2O2 0.5, and 40% MeOH solution of 1:10 (MeO)3SiCH2CH2Si(OMe)3 (I)-3-(trimethoxysilyl)propyl methacrylate 2.5 parts was cast to a 7-mm rod with flexural strengths 23,100 and 18,200 psi after 0 and 24 h in boiling water, resp.; vs. 18,800 and 14,700, resp., without I.

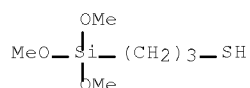
IT 4420-74-0, 3-Mercaptopropyltrimethoxysilane
 14814-09-5, 3-Mercaptopropyltriethoxysilane
 31001-77-1, 3-Mercaptopropylmethyldimethoxysilane

RL: USES (Uses)

(coupling agents, for plastic moldings, crosslinking of)

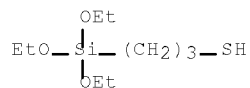
RN 4420-74-0 HCAPLUS

CN 1-Propanethiol, 3-(trimethoxysilyl)- (CA INDEX NAME)



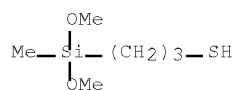
RN 14814-09-6 HCAPLUS

CN 1-Propanethiol, 3-(triethoxysilyl)- (CA INDEX NAME)

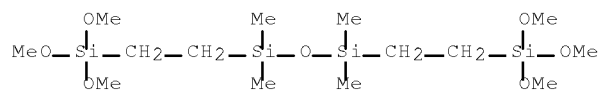


RN 31001-77-1 HCAPLUS

CN 1-Propanethiol, 3-(dimethoxymethylsilyl)- (CA INDEX NAME)



IT 108427-71-0
 RL: MOA (Modifier or additive use); USES (Uses)
 (crosslinking agents, for silane derivative couplers for
 plastics)
 RN 108427-71-0 HCAPLUS
 CN 2,7,12-Trioxa-3,6,8,11-tetrasilatridecane,
 3,3,11,11-tetramethoxy-6,6,8,8-tetramethyl- (CA INDEX NAME)



IC ICM C09K003-00
 ICS C07F007-04; C07F007-08
 INCL 106287140
 CC 37-6 (Plastics Manufacture and Processing)
 Section cross-reference(s): 42
 ST silane deriv coupler crosslinking; polyester molding
 coupler crosslinking; methacrylate silylalkyl coupler
 crosslinking; primer silane deriv crosslinking
 IT Crosslinking agents
 (bis(alkoxysilyl) compds., for silane derivative coupling agents)
 IT Epoxy resins, uses and miscellaneous
 Polyesters, uses and miscellaneous
 RL: USES (Uses)
 (reinforced, silane derivative couplers for, crosslinking
 of)
 IT Coupling agents
 (silane derivs., for plastics, crosslinking agents
 for)
 IT Rubber, butadiene-styrene, uses and miscellaneous
 RL: TEM (Technical or engineered material use); USES (Uses)
 (block, coatings, Kraton 1102, silane derivative couplers
 for, crosslinking of)
 IT Coating materials
 (primers, silane derivs., crosslinking agents for)
 IT 24937-78-8, Ethylene-vinyl acetate copolymer
 RL: TEM (Technical or engineered material use); USES (Uses)
 (coatings, EMA 15295, silane derivative couplers for,
 crosslinking of)
 IT 25085-99-8, DER 667 75831-37-7, CXA 2022
 RL: TEM (Technical or engineered material use); USES (Uses)
 (coatings, silane derivative couplers for,
 crosslinking of)
 IT 754-05-2, Vinyltrimethylsilane 919-30-2,
 3-Aminopropyltriethoxysilane 1067-53-4,
 Tris(2-methoxyethoxy)vinylsilane 1760-24-3 2530-83-8,
 3-Glycidyloxypropyltrimethoxysilane 2530-85-0 2530-87-2,
 3-Chloropropyltrimethoxysilane 3069-30-5,
 4-Aminobutyltriethoxysilane 3388-04-3,
 2-(3,4-Epoxy cyclohexyl)ethyltrimethoxysilane 4130-08-9,
 Vinyltriacetoxysilane 4420-74-0,
 3-Mercaptopropyltrimethoxysilane 5089-70-3,
 3-Chloropropyltriethoxysilane 13822-56-5,
 3-Aminopropyltrimethoxysilane 14814-09-6,
 3-Mercaptopropyltriethoxysilane 15188-09-7,
 Vinyltris(tert-butylperoxy)silane 21807-63-6 24801-87-4
 31001-77-1, 3-Mercaptopropylmethyldimethoxysilane
 31681-13-7, 2-Methacryloyloxyethyl dimethyl(3-

10/554,222-322849-EIC SEARCH

trimethoxysilylpropyl)ammonium chloride 35141-30-1 68092-72-8
 94194-98-6 108587-75-3 112618-82-3

RL: USES (Uses)

(coupling agents, for plastic moldings, ~~crosslinking~~
 of)

IT 3371-62-8 17861-40-4 18032-34-3 18406-41-2 87135-01-1
 93236-49-8 ~~108427-71-0~~ 112614-32-1

RL: MOA (Modifier or additive use); USES (Uses)

(~~crosslinking~~ agents, for silane derivative couplers for
 plastics)

IT 112659-95-7

RL: USES (Uses)

(quartz-filled, silane derivative couplers for,
~~crosslinking~~ of)

IT 112659-46-8

RL: USES (Uses)

(reinforced, silane derivative couplers for, ~~crosslinking~~
 of)

IT 106107-54-4

RL: USES (Uses)

(rubber, block, ~~coatings~~, Kraton 1102, silane derivative
 couplers for, ~~crosslinking~~ of)

OS.CITING REF COUNT: 21 THERE ARE 21 CAPLUS RECORDS THAT CITE
 THIS RECORD (22 CITINGS)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L47 ANSWER 19 OF 23 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1986:170261 HCAPLUS Full-text

DOCUMENT NUMBER: 104:170261

ORIGINAL REFERENCE NO.: 104:26961a,26964a

TITLE: Hard ~~coatings~~ for plastics

INVENTOR(S): Kawashima, Hiroshi; Mogami, Takao; Kubota,
 Satoshi

PATENT ASSIGNEE(S): Suwa Seikosha Co., Ltd. , Japan

SOURCE: Ger. Offen., 68 pp.

CODEN: GWXXBX

DOCUMENT TYPE: ~~Patent~~

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
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DE 3520749	A1	19851212	DE 1985-3520749	1985 0610
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JP 60262834	A	19851226	JP 1984-119682	1984 0611
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JP 61179235	A	19860811	JP 1985-20269	1985 0205
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FR 2565699	A1	19851213	FR 1985-6485	1985 0429
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PRIORITY APPLN. INFO.:	JP 1984-119682	A	1984 0611
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JP 1985-20269	A
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10/554,222-322849-EIC SEARCH

1985

0205

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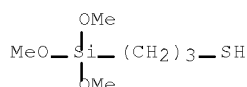
ED Entered STN: 17 May 1986

AB Hard plastics, especially lenses, from copolymers of halogenated bisphenol carboxyalkyl ether allyl esters and diallylbenzenedicarboxylates are ~~coated~~ with silicones or photocurable resins, after treatment with aqueous alkaline solns. of polyethylene glycol (I). Thus, a lens (n 1.583) prepared from a copolymer of 50 parts tetrabromobisphenol A bis[2-(carboallyloxy)ethyl]ether and 50 parts diallyl phthalate was dipped in a solution of I (mol. weight 40) 100, NaOH 50, and H₂O 850 g at 40° for 5 min, dipped in a mixture of 30% alc. colloidal SiO₂ 230, [3-(glycidyloxy)propyl]trimethoxysilane 108, 0.05N HCl 52, and iso-PrOH 220 parts, and baked 1 h at 80° and 1 h at 4130° to give a lens with good resistance to abrasion, H₂O, chems., and weathering.

IT ~~4420-74-0~~ ~~98789-40-3~~
 RL: USES (Uses)
 (~~coatings~~ containing, abrasion-resistant, for plastic lenses)

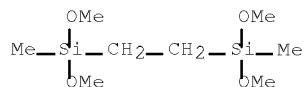
RN 4420-74-0 HCAPLUS

CN 1-Propanethiol, 3-(trimethoxysilyl)- (CA INDEX NAME)



RN 98789-40-3 HCAPLUS

CN 2,7-Dioxa-3,6-disilaooctane, 3,6-dimethoxy-3,6-dimethyl- (CA INDEX NAME)



IC ICM C08L031-00
 ICS C08L031-06; C08J007-12; C08J007-04; C08J007-18; C09D003-82; B29D011-00

CC 42-10 (Coatings, Inks, and Related Products)
 Section cross-reference(s): 38

ST lens plastic ~~coating~~ hard; silicone ~~coating~~
 lens plastic; tetrabromobisphenol A deriv copolymer lens; allyl ester copolymer lens; phthalate allyl copolymer lens; abrasion resistance ~~coating~~ plastic

IT Lenses
 (plastic, abrasion-resistant silicone and acrylic polymer ~~coatings~~ for)

IT Abrasion-resistant materials
 (~~coatings~~, silicones and acrylic polymers, for plastic lenses)

IT Coating materials
 (photocurable, acrylic polymers, for plastic lenses)

IT 2530-83-8 2897-60-1 3388-04-3 ~~4420-74-0~~
 7631-86-9, uses and miscellaneous 39317-73-2
~~98789-40-3~~
 RL: USES (Uses)
 (~~coatings~~ containing, abrasion-resistant, for plastic lenses)

IT 115-77-5D, acrylate esters, copolymers 6606-59-3D, copolymers
 29570-58-9D, copolymers 101764-94-7

10/554,222-322849-EIC SEARCH

RL: TEM (Technical or engineered material use); USES (Uses)
(~~coatings~~, photocurable and abrasion-resistant, for
plastic lenses)

IT 81517-52-4 98716-83-7 101764-90-3 101797-98-2 101797-99-3

RL: USES (Uses)
(lenses, abrasion-resistant ~~coatings~~ for)

IT 25322-68-3

RL: USES (Uses)
(plastic lens treatment with, in abrasion-resistant
~~coating~~)

L47 ANSWER 20 OF 23 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1986:90145 HCAPLUS Full-text

DOCUMENT NUMBER: 104:90145

ORIGINAL REFERENCE NO.: 104:14307a,14310a

TITLE: Plastic lenses

INVENTOR(S): Kubota, Satoshi; Nakajima, Mikito; Mogami,
Takao

PATENT ASSIGNEE(S): Suwa Seikosha Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: ~~Patent~~

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 60213902	A	19851026	JP 1984-71171	

1984

0410

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PRIORITY APPLN. INFO.: JP 1984-71171

1984

0410

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ED Entered STN: 22 Mar 1986

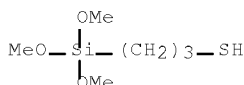
AB An antireflective, scratch resistant, and dyeable ~~coating~~ for a plastic lens comprises
(A) a compound R₁R₂Si(OR₃)₃-a (R₁ = C₁-6 hydrocarbon, vinyl, methacryloyloxy, amino,
mercapto, epoxy; R₂ = C₁-4 hydrocarbon; R₃ = C₁-5 hydrocarbon, acyl, alkoxyalkyl, H; a
= 0 - 1), (B) a compound (R₄O)₃-bSiR₆ZSiR_c7(OR₅)₃-c (R₄,R₅ = C₁-4 hydrocarbon, acyl,
alkoxyalkyl, H; R₆,R₇ = C₁-6 hydrocarbon, vinyl, methacryloyloxy, amino, mercapto,
epoxy; Z = hydrocarbon, O, S; b,c = 0 - 1) (I), (C) a colloidal silica with particle
diameter 1-100 μ, (D) a polyfunctional epoxy compound or polyvalent alc., and (E)
Mg(ClO₄)₂. Thus, an hydrolyzed composition comprising MeSi(OMe)₃ 63, I (R₄ = R₅ = R₆ =
R₇ = Me; Z = (CH₂)₂; b = c = 1) 10, colloidal silica 100, trimethylolpropane
triglycidyl ether 26, and Mg(ClO₄)₂ 13.0, and a silicone surfactant was ~~coated~~ on a
polycarbonate lens and ~~cured~~ at 80° for 30 min and at 130° for 2 h to give a ~~layer~~
exhibiting crosscut adhesion test 100/100 initially and 100/100 after 500 h of UV
irradiation, and visible light transmittance 48% after dyeing, withstanding 10 rubbing
cycles with a steel wool at 10 kg/cm² and 24 h of immersion in 0.1% aqueous NaOH or
EtOH, compared with 100/100, 30/100, and 89%, resp., for a ~~coating~~ not containing
Mg(ClO₄)₂.

IT 4420-74-0 98789-40-3

RL: USES (Uses)
(~~coatings~~ containing, plastic lenses ~~coated~~
with, antireflective, scratch-resistant, dyeable)

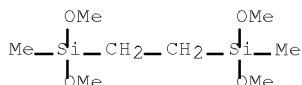
RN 4420-74-0 HCAPLUS

CN 1-Propanethiol, 3-(trimethoxysilyl)- (CA INDEX NAME)



10/554,222-322849-EIC SEARCH

RN 98789-40-3 HCAPLUS
 CN 2,7-Dioxa-3,6-disilaoctane, 3,6-dimethoxy-3,6-dimethyl- (CA INDEX NAME)



IC ICM G02B001-10
 ICS C08J007-04; C09D003-82; G02B001-04
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 42
 ST methyltrimethoxysilane ~~coating~~ polycarbonate lens;
 silica silicone ~~coating~~ polycarbonate lens;
 trimethylolpropane triglycidyl ether silicone ~~coating~~;
 magnesium perchlorate silicone ~~coating~~
 IT Polycarbonates
 RL: USES (Uses)
 (lenses, silicone ~~coatings~~ for, antireflective,
 scratch-resistant, dyeable)
 IT Lenses
 (plastic, silicone ~~coatings~~ for, antireflective,
 scratch-resistant, dyeable)
 IT ~~Coating~~ materials
 (silicone, for plastic lenses, antireflective,
 scratch-resistant, dyeable)
 IT 1185-55-3 2530-83-8 4420-74-0 18406-41-2
 98789-40-3 100699-39-6
 RL: USES (Uses)
 (~~coatings~~ containing, plastic lenses ~~coated~~
 with, antireflective, scratch-resistant, dyeable)
 IT 7631-86-9, uses and miscellaneous
 RL: USES (Uses)
 (colloidal, silicone ~~coatings~~ containing, plastic lenses
~~coated~~ with, antireflective, scratch-resistant,
 dyeable)
 IT 10034-81-8
 RL: CAT (Catalyst use); USES (Uses)
 (~~curing~~ catalysts, silicone ~~coatings~~
 containing, plastic lenses ~~coated~~ with, antireflective,
 scratch-resistant, dyeable)
 IT 25656-90-0
 RL: USES (Uses)
 (lenses, silicone ~~coatings~~ for, antireflective,
 scratch-resistant, dyeable)
 IT 111-46-6, uses and miscellaneous 3454-29-3 16096-31-4
 RL: USES (Uses)
 (silicone ~~coatings~~ containing, plastic lenses
~~coated~~ with, antireflective, scratch-resistant,
 dyeable)
 OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE
 THIS RECORD (1 CITINGS)

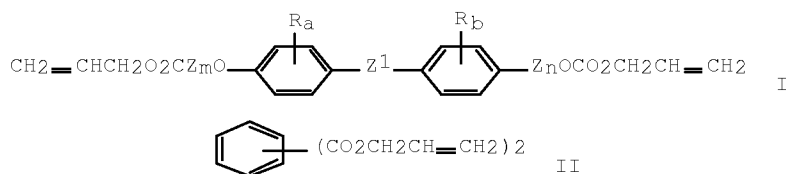
L47 ANSWER 21 OF 23 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1985:579354 HCAPLUS Full-text
 DOCUMENT NUMBER: 103:179354
 ORIGINAL REFERENCE NO.: 103:28879a
 TITLE: Synthetic resin lenses with high refractive
 index

10/554,222-322849-EIC SEARCH

PATENT ASSIGNEE(S): Suwa Seikosha Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

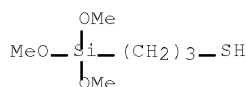
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 60103303	A	19850607	JP 1983-212193	1983 1111
PRIORITY APPLN. INFO.:				1983 1111

ED Entered STN: 30 Nov 1985
 GI



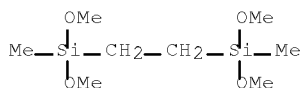
AB Lenses with high refractive index, prepared from a copolymer of I [Z = OCH₂CH₂, O(CH₂)₃, OCHMeCH₂, OCH₂CHMe, OCH₂CH(OH)CH₂; Z₁ = O, S, SO₂, CH₂, CMe₂; R = Cl, Br, I; a, b = 1-4; m, n = 0-4] and II, are coated with a composition of RSiR₁c(OR₂)_{3-c} and/or (R₃O)_{3-d}SiR₅dZSiR₆e(OR₄)_{3-e} (R, R₅, R₆ = C1-6 hydrocarbyl, optionally with vinyl, methacryloxy, amino, mercapto, or epoxy functionality; R₁, R₃, R₄ = C1-4 hydrocarbyl; R₂ = C1-5 hydrocarbyl, acyl, alkoxyalkyl, H; c, d, e = 0, 1; Z = divalent hydrocarbyl, O- or S-containing divalent organic group), colloidal silica of particle size 1-100 mμ, and a polyhydric alc., a polybasic carboxylic acid, a polybasic carboxylic acid anhydride, and/or a polyfunctional epoxy compound. Thus, a mixture of 2,2-bis[4-(2-allyloxycarbonyloxyethoxy)-3,5-dibromophenyl]propane 50, diallyl phthalate 50, 2-(2-hydroxy-5-methylphenyl)benzotriazole 0.1, and di-iso-Pr peroxy carbonate 1.2 parts was heated in a mold at 40-90° for 24 h and postcured at 100° for 3 h to give a lens with n_D 1.583, which was treated with 4% NaOH aqueous solution, immersed in a composition of MeSi(OMe)₃ [1185-55-3] 108, OSCAL-1432 [7631-86-9] (iso-PrOH-dispersed colloidal silica) 212, iso-PrOH 439, 0.05N HCl 52, 1,6-hexanediol diglycidyl ether [16096-31-4] 183, Mg(ClO₄)₂ 5, and L-7604 (flow control agent) 0.1 part, and cured 1 h at 80° and 1 h at 130°. The lens coating had good adhesion and good resistance to abrasion, hot water, weather, and chems.

IT 4420-74-0 98789-40-3
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (hydrolytic polymerization of, in manufacture of coatings for plastic lenses with high refractive index)
 RN 4420-74-0 HCAPLUS
 CN 1-Propanethiol, 3-(trimethoxysilyl)- (CA INDEX NAME)



10/554,222-322849-EIC SEARCH

RN 98789-40-3 HCAPLUS
 CN 2,7-Dioxa-3,6-disilaoctane, 3,6-dimethoxy-3,6-dimethyl- (CA INDEX NAME)



IC ICM G02B001-10
 ICS C08F218-00; C08F218-18; G02B001-04
 CC 38-3 (Plastics Fabrication and Uses)
 ST allyl copolymer lens abrasion resistance; bromobisphenol ether copolymer lens; diallyl phthalate copolymer lens; methyltrimethoxysilane coating allyl copolymer lens
 IT Lenses
 (allyl copolymers, coated with siloxane and silica, with high refractive index, abrasion-resistant)
 IT Coating materials
 (abrasion-resistant, silica-containing siloxane, for allyl copolymer lenses with high refractive index)
 IT Abrasion-resistant materials
 (coatings, silica-containing siloxane, for allyl copolymer lenses with high refractive index)
 IT 7631-86-9, uses and miscellaneous
 RL: USES (Uses)
 (colloidal, siloxane coatings containing, for plastic lenses with high refractive index)
 IT 1185-55-3 2530-83-8 2897-60-1 3388-04-3 4420-74-0 98789-40-3
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (hydrolytic polymerization of, in manufacture of coatings for plastic lenses with high refractive index)
 IT 81517-52-4 98572-56-6 98716-83-7
 RL: USES (Uses)
 (lenses, polysiloxane- and silica-coated, with high refractive index)
 IT 56-81-5, uses and miscellaneous 111-46-6, uses and miscellaneous 16096-31-4 27043-36-3
 RL: USES (Uses)
 (siloxane coatings containing, for plastic lenses with high refractive index)

L47 ANSWER 22 OF 23 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1956:73525 HCAPLUS Full-text

DOCUMENT NUMBER: 50:73525

ORIGINAL REFERENCE NO.: 50:13728d-i,13729a-g

TITLE: Organosilicon chemistry. L. Aliphatic organo-functional siloxanes. IV. Direct synthesis of organosiloxane esters and acids from halomethylsiloxanes and halomethylethoxysilanes

AUTHOR(S): Sommer, L. H.; Masterson, J. M.; Steward, O. W.; Leitheiser, R. H.

CORPORATE SOURCE: Pennsylvania State Univ., Univ. Park

SOURCE: Journal of the American Chemical Society (1956), 78, 2010-15

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

ED Entered STN: 22 Apr 2001

10/554,222-322849-EIC SEARCH

GI For diagram(s), see printed CA Issue.

AB cf. C.A. 50, 9281h. $\text{Me}_3\text{SiOSiMe}_2\text{CH}_2\text{I}$ (I) (115 g.) added rapidly with stirring to 9.2 g. Na and 64 g. $\text{CH}_2(\text{CO}_2\text{Et})_2$ (II) in 210 cc. Diethyl Carbitol (III), the mixture heated 15 hrs. with stirring at 100° , washed with two 100-cc. portions H_2O , the washings extracted with C_6H_6 , and the combined product and washings distilled gave 96.5 g. $\text{Me}_3\text{SiOSiMe}_2\text{CH}_2\text{OH}(\text{CO}_2\text{Et})_2$ (IV), b₇ $127-8^\circ$, n_D20 1.4240, d₂₀ 0.9717, MRD 84.2; saponification equivalent 160 [determined by heating 9 hrs. with KOH-(HOCH_2CH_2)₂O on the steam bath]. A similar run with the Cl analog (V) of I gave 58-75%. I (142 g.) added during 0.5 hr. with stirring and heating at 50° to $\text{NaCH}(\text{CO}_2\text{Et})_2$ (VI) from 96 g. II and 12 g. Na sand in 750 cc. PhMe, the mixture heated 45 hrs. with stirring at 105° , cooled, and filtered, and the filtrate fractionated gave 50% IV. $\text{O}(\text{SiMe}_2\text{CH}_2\text{I})_2$ (VII), b₆ 120° , n_D20 1.5255 [prepared from the di-Cl analog (VIII) of VII and NaI in Me_2CO], (207 g.) added during 0.5 hr. with stirring at 50° to VI from 192 g. II and 23 g. Na sand in 1.4 l. PhMe, and the mixture refluxed 50 hrs. with stirring gave 97 g. 1,1-dicarbethoxy-3,3,5,5-tetramethyl-3,5-disila-4-oxacyclohexane (IX), b₆₋₇ 134° , n_D20 1.4485, d₂₀ 1.043, MRD 81.8, saponification equivalent 157 (heated 20 hrs.). VIII gave similarly only 28% IX. VIII (67 g.) added during 5 min. at 40° to VI from 96 g. II and 13.8 g. Na in 250 cc. III, and the mixture heated 8 hrs. with stirring at $110-15^\circ$ yielded 58.2 g. IX, b₁₀ $141-2^\circ$, n_D20 1.4430-1.4480; careful fractionation gave material, n_D20 1.4440-1.4455, which was hydrolyzed and decarboxylated to yield 30 g. 1-carboxy-3,3,5,5-tetra-methyl-3,5-disila-4-oxacyclohexane (X), m. 144° . VII treated with VI in III and the product hydrolyzed and decarboxylated yielded about 50% X. Iodomethylheptamethylcyclotetrasiloxane (XI) (149 g.), b_{0.7} 66° , n_D20 1.4449, d₂₀ 1.2897, MRD 87.2 [prepared in 83% yield from the Cl analog (XII) of XI and NaI in Me_2CO], in 50 cc. III heated to 100° , and treated with stirring during 2 hrs. with VI from 8.0 g. Na and 56 g. II in 250 cc. III, the mixture cooled to room temperature, diluted with 300 cc. Et₂O, washed with 500 cc. 0.5N HCl and 500 cc. H₂O, the aqueous layer extracted with Et₂O, and the combined Et₂O solns. worked up gave 72 g. (2,2-dicarbethoxyethyl)-heptamethylcyclotetrasiloxane, b₂ 136° , n_D20 1.4251, d₂₀ 1.0542, MRD 110.3, saponification equivalent 229 (refluxed 4 hrs. with KOH in Me Cellosolve); it was also obtained in 24% yield, b_{0.3} 114° , n_D20 1.4254, during 20 hrs. at 100° from XII. V (0.5 mole) added at 50° to 11.5 g. Na dissolved at 75° in 200 cc. Me_3COH in the presence of 83 g. II, the mixture stirred 1 hr. at 85° and 15 hrs. at 75° , cooled, and washed with two 100-cc. portions H_2O , the aqueous layer extracted with C_6H_6 , and the combined organic solns. distilled gave 76.0 g. IV, b₇ 127° n_D20 1.4240. V (196 g.) and 10 g. NaI added to VI from 1 mole Na and 1.2 moles II in 500 cc. refluxing absolute EtOH, the mixture stirred 6 hrs. and centrifuged, and the liquid distilled gave 28 g. Me_3SiOEt as slightly impure azeotrope with 30% EtOH, b₇₂₄ 65° , n_D20 1.3720; 15.2 g. $\text{EtOSiMe}_2\text{CH}_2\text{Cl}$, b₄₇ 58° , n_D20 1.4151; and 26.2 g. $\text{EtOSiMe}_2\text{CH}_2\text{CH}(\text{CO}_2\text{Et})_2$ (XIII), b_{4.5} 125° , n_D20 1.4299. The unfractionated XIII from a similar run hydrolyzed and decarboxylated yielded only 3 g. $\text{O}(\text{SiMe}_2\text{CH}_2\text{CH}_2\text{CO}_2\text{H})_2$ (XIV). IX (120 g.), 500 cc. glacial AcOH, and 150 cc. concentrated HCl refluxed 12 hrs., the EtOAc removed, and the residual mixture cooled gave 62 g. X, hard, shiny white crystals, m. 145° (from ligroine, b. $67-92^\circ$); the mother liquor gave a 2nd crop of 15 g. IV (192 g.), 500 cc. glacial AcOH, and 150 cc. concentrated HCl refluxed 24 hrs. and slowly fractionated yielded 75 g. $\text{Me}_2\text{Si}(\text{CH}_2)_2\text{CO}_2\text{O}$ (XV). XV stirred vigorously with 10 cc. H₂O gave 78 g. XIV, m. 54° . $\text{NCCH}_2\text{CO}_2\text{Et}$ (XVI) (35 g.) and 7.1 g. Na in 300 cc. III heated to 100° , cooled to room temperature, treated during 5 min. with 86 g. I, heated 20 hrs. with stirring at 100° , filtered, and fractionated yielded 40.4 g. $\text{Me}_3\text{SiOSiMe}_2\text{CH}_2\text{CH}(\text{CN})\text{CO}_2\text{Et}$ (XVII), b₁₇ 140° , n_D20 1.4260, d₂₀ 0.9605, MRD 73.1. XVII was converted in the same manner as IV in 85% yield to XIV, m. 54° . X (60 g.), 500 cc. absolute EtOH, and 5 cc. concentrated HCl refluxed 18 hrs. and fractionated slowly gave 65 g. 1-carbethoxy-3,3,5,5-tetramethyl-3,5-disila-4-oxacyclohexane (XVIII), b₁₁ 102° , n_D20 1.4392, d₂₀ 0.9718, MRD 66.7, saponification equivalent 246. XVIII (192 g.) added during 45 min. with stirring to 378 g. $(\text{Me}_3\text{Si})_2\text{O}$ and 20 cc. concentrated H_2SO_4 , the mixture stirred 24 hrs. at room temperature, and the product layer washed with H₂O, dried, and distilled gave 99.9 g. unchanged XLII, b₁₆ 109° , n_D20 1.4375; and 54.7 g. 2,2,4,4,8,8,10,10-octamethyl-2,4,8,10-tetrasiloxane-3,9-dioxane-6-carbethoxyundecane, b₂ 115° n_D20 1.4253, d₂₀ 0.9078. IV (96.0 g.), 104 g. VIII, and 6 cc. concentrated H_2SO_4 stirred 20 hrs. at room temperature and the mixture washed with three 30-cc. portions aqueous NaCl, diluted with 50 cc. C_6H_6 , and fractionated gave 0.16 mole V, 0.252 mole VIII, 0.076 mole IV, and 54.7 g. $\text{ClCH}_2\text{SiMe}_2\text{OSiMe}_2\text{CH}_2\text{CH}(\text{CO}_2\text{Et})_2$ (XIX), b₁₆ 172° , n_D20 1.4405, d₂₀ 1.052, MRD 89.1, saponification equivalent 176. XIX (60 g.) added during 10 min. with stirring at room temperature to VI from 4.0 g. Na and 28 g. II in 100 cc. III, the mixture heated 20 hrs. with stirring at 100° cooled, washed with H₂O, and the C_6H_6 extract of the aqueous washings fractionated yielded 35.6 g. IX, b₁₇ 152° , n_D22 1.4485. V (76.3 g.) added during 15 min. to VI from 11.5 g. Na and 85 g. II in 250 cc.

absolute EtOH, and the mixture refluxed 18 hrs., filtered, and fractionated gave 83.1 g. EtOSiMe₂CH₂CH(CO₂Et)₂ (XX), b₁₅ 142°, n_D20 1.4295, d₂₀ 1.001, MRD 71.1, saponification equivalent 136. ClCH₂SiMe₂OEt (61 g.) heated 18 hrs. with stirring at 120° with VI from 9.7 g. Na and 72 g. II in 200 cc. III, filtered, and fractionated gave 61% XX. XX (41.1 g.) treated with glacial AcOH and concentrated HCl gave 95% XIV, m. 54°. NaI (10 g.) and then 182.6 g. ClCH₂SiMe(OEt)₂ (XXI) added to VI from 23 g. Na and 190 g. II in 500 cc. refluxing absolute EtOH yielded in the usual manner 199.5 g. (EtO)₂SiMeCH₂CH(CO₂Et)₂ (XXII), b₂₆ 172°, n_D20 1.4258, d₂₀ 1.0264, MRD 76.4, saponification equivalent 157. XXI and VI in III gave 61% XXII. ClCH₂SiMeCl₂ treated with EtOH gave 71% XXI, b₃₈ 77°. NaCH(CN)CO₂Et from 23 g. Na and 124.3 g. XVI in 500 cc. refluxing absolute EtOH treated with 10 g. NaI and then 182 g. XXI during 0.5 hr., and the mixture refluxed 0.5 hr. with stirring, filtered, and distilled gave 120 g. (EtO)₂SiMeCH₂CH(CN)CO₂Et, b₈ 140°, n_D20 1.4291, d₂₀ 1.017, MRD 65.74, saponification equivalent 253 (at room temperature with N KOH in Bu Cellosolve during 1 hr.).

$$\text{HO}_2\text{C}-\text{CH}_2-\text{CH}_2-\underset{\text{Me}}{\overset{\text{Me}}{\text{Si}}}-\text{O}-\underset{\text{Me}}{\overset{\text{Me}}{\text{Si}}}-\text{CH}_2-\text{CH}_2-\text{CO}_2\text{H}$$
$$\begin{array}{c} \text{Me} \\ | \\ \text{Me}-\text{Si}-\text{CH}_2-\text{CH}-\text{CH}_2-\text{Si}-\text{Me} \\ | \qquad \qquad \qquad | \\ \text{Me}_3\text{Si}-\text{O} \qquad \qquad \text{O}-\text{SiMe}_3 \\ \qquad \qquad \qquad \text{C=O} \\ \qquad \qquad \qquad | \\ \qquad \qquad \qquad \text{OEt} \end{array}$$

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Malonic acid, (heptamethylcyclotetrasiloxanylmethyl)-, diethyl ester 17963-30-3, Propionic acid, 2-cyano-3-(diethoxymethylsilyl)-, ethyl ester 18052-00-1, 3-Oxa-2,4-disilaheptan-7-oic acid, 6-cyano-2,2,4,4-tetramethyl-, ethyl ester 18052-00-1, Disiloxane, (2-carboxy-2-cyanoethyl)pentamethyl-, ethyl ester 18052-00-1, Propionic acid, 2-cyano-3-pentamethyldisiloxanyl-, ethyl ester 18141-79-2, Malonic acid, [(ethoxydimethylsilyl)methyl]-, diethyl ester 18143-98-1, Disiloxane, (iodomethyl)pentamethyl- 18388-28-8, 1-Oxa-2,6-disilacyclohexane-4-carboxylic acid, 2,2,6,6-tetramethyl- 18406-87-6, Malonic acid, [(diethoxymethylsilyl)methyl]-, diethyl ester 18406-94-5, Disiloxane, 1-(chloromethyl)-3-(2,2-dicarboxyethyl)-1,1,3,3-tetramethyl-, diethyl ester 18406-94-5, Malonic acid, [[3-(chloromethyl)-1,1,3,3-tetramethyldisiloxanyl]methyl]-, diethyl ester 18406-94-5, 3-Oxa-2,4-disilahexane-6,6-dicarboxylic acid, 1-chloro-2,2,4,4-tetramethyl-, diethyl ester 18418-98-9, Disiloxane, (2,2-dicarboxyethyl)pentamethyl-, diethyl ester 18418-98-9, Malonic acid, (pentamethyldisiloxanylmethyl)-, diethyl ester 18418-98-9, 3-Oxa-2,4-disilahexane-6,6-dicarboxylic acid, 2,2,4,4-tetramethyl-, diethyl ester 18536-56-6, Propionic acid, 3-pentamethyldisiloxanyl-2-(pentamethyldisiloxanylmethyl)-, ethyl ester 18536-56-6, 3-Oxa-2,4-disilaheptan-7-oic acid, 2,2,4,4-tetramethyl-6-(pentamethyldisiloxanylmethyl)-, ethyl ester 18536-56-6, Disiloxane, (2-carboxytrimethylene)bis[pentamethyl-, ethyl ester 18536-56-6, 3,9-Dioxa-2,4,8,10-tetrasilauundecane-6-carboxylic acid, 2,2,4,4,8,8,10,10-octamethyl-, ethyl ester (preparation of)

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ACCESSION NUMBER: 1954:42275 HCAPLUS Full-text

DOCUMENT NUMBER: 48:42275

ORIGINAL REFERENCE NO.: 48:7541a-i,7542a

TITLE: Organosilicon chemistry. XXXIII. Aliphatic organofunctional siloxanes

AUTHOR(S): Sommer, L. H.; Pioch, R. P.; Marans, N. S.; Goldberg, G. M.; Rockett, J.; Kerlin, J.

CORPORATE SOURCE: State College, PA

SOURCE: Journal of the American Chemical Society (1953), 75, 2932-4

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

ED Entered STN: 22 Apr 2001

GI For diagram(s), see printed CA Issue.

AB cf. *ibid.* 1585; C.A. 47, 484e. The synthesis of 7 aliphatic organosiloxanes containing functional groups linked to C is described. The key reaction for their preparation involves the selective cleavage of 1 Me group from Me₃Si derivs. by concentrated H₂SO₄. Me₃Si(CH₂)₃MgBr carbonated with Dry Ice yielded 74% Me₃Si(CH₂)₃CO₂H (I), b₁₀ 118°, n_{20D} 1.4324. Claisen condensation of the Me₃Si(CH₂)₂CO₂Et in Et₂O with (iso-Pr)₂NMgBr as the condensing agent yielded 81% Me₃SiCH₂CH(COCH₂CH₂SiMe₃)CO₂Et (II), b₈ 141°, n_{20D} 1.4472, d₂₀ 0.9196. cc I (33 g.) refluxed 4 h. with 14 cc. concentrated H₂SO₄, 9 cc. H₂O, and 73 cc. glacial AcOH gave 80% [Me₃Si(CH₂)₂]₂CO (III), b₇ 103°, n_{20D} 1.4414, d₂₀ 0.8424, MRD 72.20. III (0.583 mol), 0.641 mol NH₂OH.HCl, 250 cc. absolute EtOH, and 225 cc. dry pyridine heated 2 h. on the steam bath, the solvents evaporated, and the crystalline residue washed with H₂O and dried in vacuo yielded 122.5 (86%) oxime (IV) of III, m. 76-6.5° (from MeOH). IV reduced with LiAlH₄ in dry Et₂O yielded 44% [Me₃Si(CH₂)₂]₂CHNH₂ (V), b₁₅ 115°, n_{20D} 1.4438, d₂₀ 0.8123. To 400 cc. concentrated H₂SO₄ was added at 10° with stirring during 1.5 h. 294 g. Me₃Si(CH₂)₂CO₂H, the mixture warmed 1 h. on the steam bath to complete the evolution of CH₄ (99%), cooled, poured on ice, and the white solid precipitate filtered off and dried under an IR lamp to give 265 g. (95%) O(SiMe₂CH₂CH₂CO₂H)₂, m. 53-4°. Similarly was prepared O(SiMe₂CH₂CH₂Ac)₂, b₆ 142°, n_{20D} 1.4390, in 62% yield from Me₃Si(CH₂)₂Ac. To 5.23 g. I was added slowly with cooling and stirring 20 cc. H₂SO₄, the mixture warmed after 8 h. to room

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temperature, poured on ice, stirred and warmed to room temperature, the white solid precipitate filtered off, washed, and dried; the aqueous filtrate extracted with Et2O gave an addnl. 0.5 g. product; recrystn. of the combined product from heptane gave 4.10 g. (82%) O[SiMe2(CH2)3CO2H]2, m. 49-9.5°. In a similar run of 5 h. at 60° 21% PrCO2H was isolated and identified by the p-phenylphenacyl derivative, m. 82°.

Me3Si(CH2)2NH2.HCl (15.4 g.) and 100 cc. concentrated H2SO4 heated 1 h. on the steam bath, and the mixture poured on ice, made strongly basic with NaOH, steam-distilled, acidified with concentrated HCl, and evaporated gave 85% O(SiMe2CH2CH2NH2)2 (VI).2HCl m. 267-8° (from EtOHMe2CO); a 24.2-g. sample treated in 50 cc. absolute MeOH with 11.3 g. KOH in 100 cc. dry MeOH, the mixture filtered, the MeOH distilled off, the residue extracted with Et2O, and the extract distilled gave 76% VI, b13 115°, n20D 1.4473, d20 0.9075, MRD 64.89. To 475 g. concentrated H2SO4 was added during 2.5 h. at 18° 138 g. III, the mixture stirred 1 h. at room temperature and 0.5 h. at 85° until the CH4 evolution ceased, cooled, poured on 1.5 kg. ice, the viscous organic layer extracted with three 400-cc. portions of Et2O, the extract washed with H2O, 10% aqueous NaHCO3, and again H2O, dried, rapidly distilled, and the residual viscous material (134 g.) distilled at 3-5 mm. at 230-50° vapor temperature and 370-85° pot temperature to give 112.5 g. distillate consisting of a mixture of liquid and solid; the solid, filtered off and recrystd. from 95% EtOH, gave 30.1 g. (23%)

O.SiMe2.(CH2)2.CO.(CH2)2.SiMe2.O.SiMe2.(CH2)2.CO.(CH2)2.SiMe2 (VII), m. 129-30°. (Me3Si)2O (VIII) (487 g.), 35 cc. concentrated H2SO4, and 58.5 g. of the liquid polymeric byproduct of VII stirred 4 h. at room temperature, the mixture diluted with 100 cc. H2O, stirred 10 min., the organic layer washed with two 100-cc. portions of H2O, dried with K2CO3, the excess VIII distilled off, and the residue fractionated yielded 41% CO(CH2CH2SiMe2OSiMe3)2, b2 95°, n20D 1.4262, d20 0.8857, MRD 108.7. To 68 cc. concentrated H2SO4 was added during 2 h. with cooling and stirring 40 g. V, the mixture stirred 24 h. at room temperature, heated 0.5 h. at 85°, poured on ice, made strongly alkaline with KOH, extracted with four 250-cc. portions of Et2O, the extract dried with Na2SO4 and K2CO3, distilled, the residual sticky polysiloxanepolyamine (39 g.) diluted with 200 cc. iso-PROH, treated with 40 g. KOH in 35 cc. of H2O and 310 g. VII, stirred 22 h. at 78°, cooled, washed with three 150-cc. portions of saturated aqueous NH4Cl, dried with K2CO3, the iso-PROH and excess VII distilled off at atmospheric pressure, and the residue fractionated in vacuo to yield 49% (Me3SiOSiMe2CH2CH2)2CHNH2, b2 98°, n20D 1.4282, d20 0.8654, MRD 112.8.

IT 3353-68-2F, Disiloxane,
1,3-bis(3-carboxypropyl)-1,1,3,3-tetramethyl- 4608-02-0F
, 5-Oxa-4,6-disilananedioic acid, 4,4,6,6-tetramethyl-
17940-49-7F, 3,11-Dioxa-2,4,10,12-tetrasilatridecane,
7-amino-2,2,4,4,10,10,12,12-octamethyl- 17940-82-8F,
3-Pentanone, 1,5-bis(pentamethyldisiloxanyl)-
RL: PREP (Preparation)
(preparation of)

RN 3353-68-2 HCAPLUS

CN Butanoic acid, 4,4'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis-
(CA INDEX NAME)



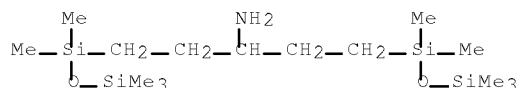
RN 4608-02-0 HCAPLUS

CN Propanoic acid, 3,3'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis-
(9CI) (CA INDEX NAME)

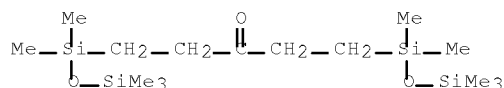


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RN 17940-49-7 HCAPLUS
CN 3-Pentanamine, 1,5-bis(1,1,3,3,3-pentamethyl-1-disiloxanyl)- (CA
INDEX NAME)



RN 17940-82-8 HCAPLUS
CN 3-Pentanone, 1,5-bis(1,1,3,3,3-pentamethyl-1-disiloxanyl)- (CA
INDEX NAME)



CC 10 (Organic Chemistry)
IT 2345-40-6P, Butyric acid, 4-(trimethylsilyl)- 3353-68-2P
, Disiloxane, 1,3-bis(3-carboxypropyl)-1,1,3,3-tetramethyl-
3353-68-2P, 6-Oxa-5,7-disilaundecanedioic acid,
5,5,7,7-tetramethyl- 3982-89-6P, Phosphinothioic chloride,
diethyl- 4608-02-0P, 5-Oxa-4,6-disilanonanedioic acid,
4,4,6,6-tetramethyl- 17865-89-3P,
4-Oxa-3,5-disilaheptane-1,7-diamine, 3,3,5,5-tetramethyl-
17940-49-7P, 3,11-Dioxa-2,4,10,12-tetrasilatridecane,
7-amino-2,2,4,4,10,10,12,12-octamethyl- 17940-49-7P,
Propylamine, 3-(pentamethyldisiloxanyl)-1-[2-
(pentamethyldisiloxanyl)ethyl]- 17940-82-8P,
3-Pentanone, 1,5-bis(pentamethyldisiloxanyl)-
17940-82-8P, Disiloxane,
1,1'-(3-oxopentamethylene)bis[1,1,3,3,3-pentamethyl-
17940-82-8P, 3,11-Dioxa-2,4,10,12-tetrasilatridecan-7-one,
2,2,4,4,10,10,12,12-octamethyl- 17948-11-7P, Silane,
(2-carboxy-3-oxopentamethylene)bis[trimethyl-, ethyl ester
17948-11-7P, Valeric acid,
3-oxo-5-(trimethylsilyl)-2-[(trimethylsilyl)methyl]-, ethyl ester
18044-31-0P, 2,8-Disilanonan-5-one, 2,2,8,8-tetramethyl-, oxime
18053-71-9P, 6-Oxa-5,7-disilaundecane-2,10-dione,
5,5,7,7-tetramethyl- 18053-95-7P, 2,8-Disilanonan-5-one,
2,2,8,8-tetramethyl- 18057-83-5P, Silane,
(3-aminopentamethylene)bis[trimethyl- 18057-83-5P, Propylamine,
3-(trimethylsilyl)-1-[2-(trimethylsilyl)ethyl]- 18623-13-7P,
1,9-Dioxa-2,8,10,16-tetrasilacyclohexadecane-5,13-dione,
2,2,8,8,10,10,16,16-octamethyl-
RL: PREP (Preparation)
(preparation of)
OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE
THIS RECORD (3 CITINGS)

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FULL SEARCH HISTORY

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(FILE 'HOME' ENTERED AT 17:25:33 ON 23 FEB 2010)

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FILE 'REGISTRY' ENTERED AT 17:26:40 ON 23 FEB 2010

L2 7 SEA SPE=ON ABB=ON PLU=ON (154619-15-5/BI OR
161000-64-2/BI OR 273735-07-2/BI OR 770733-64-7/BI OR
792931-71-6/BI OR 792931-72-7/BI OR 792931-73-8/BI)
D SCA

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L3 STR

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L5 SCR 2043
D QUE STAT L4
L6 50 SEA SSS SAM L3 AND L5
L7 4613 SEA SSS FUL L3
SAV TEMP L7 ECH222REG/A

FILE 'LREGISTRY' ENTERED AT 17:49:54 ON 23 FEB 2010

L8 STR L3
L9 STR L3

FILE 'REGISTRY' ENTERED AT 17:51:06 ON 23 FEB 2010

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SAV TEMP L11 ECH222REGA/A
L12 50 SEA SUB=L7 SSS SAM L9
L13 1738 SEA SUB=L7 SSS FUL L9
SAV TEMP L13 ECH222REGB/A
L14 23 SEA SPE=ON ABB=ON PLU=ON L11 AND L13
L15 2 SEA SPE=ON ABB=ON PLU=ON L2 AND L14
D SCA
L16 5 SEA SPE=ON ABB=ON PLU=ON L2 NOT L15
D SCA

FILE 'HCAPLUS' ENTERED AT 17:56:09 ON 23 FEB 2010

FILE 'REGISTRY' ENTERED AT 17:56:18 ON 23 FEB 2010

SAV TEMP L14 ECH222REGC/A

FILE 'HCAPLUS' ENTERED AT 17:56:40 ON 23 FEB 2010

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D SCA L1
L19 7604 SEA SPE=ON ABB=ON PLU=ON L11
L20 1182 SEA SPE=ON ABB=ON PLU=ON L13
L21 50 SEA SPE=ON ABB=ON PLU=ON L19 AND L20
L22 4844 SEA SPE=ON ABB=ON PLU=ON PROTON?(8A)?CONDUCT?(8A)?ME
MBRAN?
D KWIC
L23 50 SEA SPE=ON ABB=ON PLU=ON L17 OR L21
L24 50 SEA SPE=ON ABB=ON PLU=ON L23 OR L18
L25 QUE SPE=ON ABB=ON PLU=ON PY=<2003 NOT P/DT

10/554,222-322849-EIC SEARCH

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L26      QUE SPE=ON  ABB=ON  PLU=ON  (PY=<2003 OR PRY=<2003 OR
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L27      32 SEA SPE=ON  ABB=ON  PLU=ON  L24 AND (L25 OR L26)
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L29      32 SEA SPE=ON  ABB=ON  PLU=ON  L27 OR L28
L30      1 SEA SPE=ON  ABB=ON  PLU=ON  L29 AND L22
        D KWIC
L31      1 SEA SPE=ON  ABB=ON  PLU=ON  L1 AND L29
        D SCA
L32      15922 SEA SPE=ON  ABB=ON  PLU=ON  PROTON?(3A)?CONDUCT?
L33      2 SEA SPE=ON  ABB=ON  PLU=ON  L29 AND L32
        D SCA
L34      QUE SPE=ON  ABB=ON  PLU=ON  FILM? OR THINFILM? OR
        LAYER? OR OVERLAY? OR OVERLAID? OR LAMIN? OR LAMEL? OR
        MULTILAYER? OR SHEET? OR LEAF? OR FOIL? OR COAT? OR
        TOPCOAT? OR OVERCOAT? OR VENEER? OR SHEATH? OR COVER?
        OR ENVELOP? OR ENCASE? OR ENWRAP? OR OVERSPREAD? OR
        ENCAPSUL?
L35      QUE SPE=ON  ABB=ON  PLU=ON  L34 OR ?MEMBRAN?
L36      QUE SPE=ON  ABB=ON  PLU=ON  (PROTON? OR CHARG? OR
        HOLE# OR ELECTRON# OR E)(2A)(TRANSPORT? OR MIGRAT? OR
        TRANSFER? OR MOVE# OR MOVING# OR MOVEMENT? OR ?CONDUCT?
        )
L37      15 SEA SPE=ON  ABB=ON  PLU=ON  L29 AND (L36 OR L22 OR L32
        OR L35)
L38      QUE SPE=ON  ABB=ON  PLU=ON  POR? OR POUR?
L39      3 SEA SPE=ON  ABB=ON  PLU=ON  L37 AND L38
        D SCA
L40      15 SEA SPE=ON  ABB=ON  PLU=ON  (L30 OR L31) OR L33 OR L37
        OR L39
L41      21 SEA SPE=ON  ABB=ON  PLU=ON  L40 OR L28
L42      6 SEA SPE=ON  ABB=ON  PLU=ON  L41 NOT L40
        D SCA
L43      QUE SPE=ON  ABB=ON  PLU=ON  POLYMI? OR CURE# OR
        CURING# OR CURAB? OR CROSS(W)LINK? OR CROSSLINK?
L44      18 SEA SPE=ON  ABB=ON  PLU=ON  L29 AND L43
L45      23 SEA SPE=ON  ABB=ON  PLU=ON  L40 OR L44
L46      10 SEA SPE=ON  ABB=ON  PLU=ON  L44 AND L40
L47      23 SEA SPE=ON  ABB=ON  PLU=ON  L40 OR L44 OR L46
        SAV TEMP L47 ECH222HCP/A
        D QUE STAT L47
        D L47 1-23 IBIB ED ABS HITSTR HITIND

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